DOCUMENT RESUME

ED 436 648 CE 079 496

AUTHOR	Perin, Dolores; Boehlen, Sophie
TITLE	Integrating Academic and Career-Related Education: A Professional Development Guide for Community College Faculty.
INSTITUTION	National Center for Research in Vocational Education, Berkeley, CA.
SPONS AGENCY	Office of Vocational and Adult Education (ED), Washington, DC.
PUB DATE	1999-11-00
NOTE	171p.
CONTRACT	V051A30003-99A; V051A30004-99A
AVAILABLE FROM	National Dissemination Center for Career and Technical Education, 1900 Kenny Road, Columbus, OH 43210-1090 (order no. MDS-1305).
PUB TYPE	Guides - Classroom - Teacher (052)
EDRS PRICE	MF01/PC07 Plus Postage.
DESCRIPTORS	*Academic Education; Career Education; Classroom Techniques; *Community Colleges; Course Content; Employment Potential; *Faculty Development; *Integrated Curriculum; Job Skills; Learning Activities; Professional Development; Program Evaluation; Teaching Methods; Technical Education; Two Year Colleges; *Vocational Education; *Workshops

ABSTRACT

This manual was developed as a guide for community college faculty and administrators who are seminar leaders working with faculty groups in an attempt to integrate academic and career-related education. It contains presentation plans for 10 3-hour seminars, including purpose, time sequence, key concepts, activities, and handouts. The seminars cover the following topics: (1) purposes of integrating academic and career-related education; (2) models of integration; (3) strategies for facilitating collaboration; (4) content and modes of assessment; (5) infusing study skills into career-related courses; (6) facilitating collaboration through interviews and observations; (7) facilitating transfer of knowledge across settings; (8) professional communication skills for students; (9) ongoing support for integrated instruction; and (10) implementation and evaluation of integrated instruction. The guide contains 38 references, 2 appendixes that provide classroom examples from case studies of academic-occupational integration in community colleges, and a table of employability skills. (KC)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 436 648

NCRVE

National Center for Research in
Vocational Education

University of California, Berkeley

Integrating Academic and Career-Related Education

A Professional Development Guide for Community College Faculty

Dolores Perin
Sophie Boehlen

Teachers College, Columbia University

MDS-1305 • November 1999

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

National Center for Research in Vocational Education
University of California, Berkeley
2030 Addison Street, Suite 500
Berkeley, CA 94720-1674

Supported by
The Office of Vocational and Adult Education
U.S. Department of Education

CE 079 496

BEST COPY AVAILABLE

FUNDING INFORMATION

Project Title:	National Center for Research in Vocational Education
Grant Number:	V051A30003-99A/V051A30004-99A
Act under which Funds Administered:	Carl D. Perkins Vocational Education Act P.L. 98-524
Source of Grant:	Office of Vocational and Adult Education U.S. Department of Education Washington, DC 20202
Grantee:	The Regents of the University of California c/o National Center for Research in Vocational Education 2030 Addison Street, Suite 500 Berkeley, CA 94720-1674
Director:	David Stern
Percent of Total Grant Financed by Federal Money:	100%
Dollar Amount of Federal Funds for Grant:	$4,500,000
Disclaimer:	This publication was prepared pursuant to a grant with the Office of Vocational and Adult Education, U.S. Department of Education. Grantees undertaking such projects under government sponsorship are encouraged to express freely their judgement in professional and technical matters. Points of view or opinions do not, therefore, necessarily represent official U.S. Department of Education position or policy.
Discrimination:	Title VI of the Civil Rights Act of 1964 states: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title IX of the Education Amendments of 1972 states: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving federal financial assistance." Therefore, the National Center for Research in Vocational Education project, like every program or activity receiving financial assistance from the U.S. Department of Education, must be operated in compliance with these laws.

TABLE OF CONTENTS

Acknowledgments i
Preface iii
Orientation to Academic and Career-Related Integration 1
  Overview 1
  Using the Manual: Frequently Asked Questions 7
Outcomes and Actions 11
  Student Outcomes 11
  Faculty Goals and Outcomes 12
  Key Action Steps in the Professional Development Seminars 13
Faculty Seminars 15
Series of Professional Development Seminars 17
  Professional Development Seminar 1: Purposes of Integrating Academic and Career-Related Education 19
    Activity 1.1: Orientation to Academic and Career-Related Integration 21
    Activity 1.2: Site Application: Advantages and Disadvantages of Integrating Academic and Career-Related Education 21
    Activity 1.3: Individual Application: Implications of Academic and Career-Related Education 22
    Activity 1.4: Interviews: Collaborating for Integration 22
    Activity 1.5: Planning: Integrating Academic and Career-Related Courses 23
    Activity 1.6: Formative Evaluation 23
    Activity 1.7: To Do 23
  Professional Development Seminar 2: Models of Integration 41
    Activity 2.1: Debriefing: Worksite Visits 43
    Activity 2.2: Orientation: Integration Models 43
    Activity 2.3: Site Application: Analysis of Integration Models 43
    Activity 2.4: Individual Application: Choosing an Integration Model 44
    Activity 2.5: Identifying a Guest Speaker 44
    Activity 2.6: Formative Evaluation 45
    Activity 2.7: To Do 45
  Professional Development Seminar 3: Strategies for Facilitating Collaboration 57
    Activity 3.1: Orientation: Faculty Collaboration 59
    Activity 3.2: Role-Play of Academic and Career-Oriented Instruction 59
    Activity 3.3: Local Application: Faculty Collaboration 60

Activity 3.4: Formative Evaluation 60
Activity 3.5: To Do 60
Professional Development Seminar 4: Content and Modes of Assessment – Part I 69
Activity 4.1: Orientation: Degree of Integration 71
Activity 4.2: Exploration of Course Content 71
Activity 4.3: Adaptation: Aligning Courses 71
Activity 4.4: Formative Evaluation 72
Activity 4.5: To Do 72
Professional Development Seminar 5: Infusing Study Skills into Career-Related Courses 83
Activity 5.1: Orientation to Study Skills and Strategies 85
Activity 5.2: Case Focus: Integrating Study Skills 85
Activity 5.3: Debriefing on Integration of Study Skills in Career-Related Instruction 85
Activity 5.4: To Do 86
Professional Development Seminar 6: Facilitating Collaboration Through Interviews and Observations 97
Activity 6.1: Orientation: Committed to Collaboration 99
Activity 6.2: Guest Speaker 99
Activity 6.3: Designing Materials To Facilitate Collaboration 99
Activity 6.4: Adaptation: Personalizing the Observation Guides and Interview Questions 100
Activity 6.5: Survey: Facilitating Collaboration 100
Activity 6.6: Formative Evaluation 101
Activity 6.7: To Do 101
Professional Development Seminar 7: Facilitating Transfer of Knowledge Across Settings 115
Activity 7.1: Debriefing: Classroom Observations 117
Activity 7.2: Orientation: Industry Influence 117
Activity 7.3: Presentation: Legislation Affecting Integration 117
Activity 7.4: Industry Application 118
Activity 7.5: Application: Combining Course Work and Career Themes 118
Activity 7.6: Adaptation: Promoting Transfer of Knowledge and Skills 118
Activity 7.7: Formative Evaluation 119
Activity 7.8: To Do 119

Professional Development Seminar 8: Professional Communication Skills for Students ... 141
  Activity 8.1: Orientation: Does Integrated Instruction Lower Academic Standards? ... 143
  Activity 8.2: Adaptation: Using Student Journals To Support Academic and Career-Related Integration ... 143
  Activity 8.3: Survey: Impact of Direct Instruction ... 143
  Activity 8.4: Discussion: Basic Skills Platform ... 144
  Activity 8.5: Application: Targeting Employability Skills ... 144
  Activity 8.6: Designing Materials: Linking Course Materials to SCANS Competencies ... 145
  Activity 8.7: Case Study: Applied Academics or Infusion ... 145
  Activity 8.8: Presentation: Academic Resource Centers ... 145
  Activity 8.9: Formative Evaluation ... 146
  Activity 8.10: To Do ... 146
Professional Development Seminar 9: Ongoing Support for Integrated Instruction ... 169
  Activity 9.1: Presentations: Academic and Career-Related Websites ... 171
  Activity 9.2: Orientation: Creating Ongoing Faculty Dialogue ... 171
  Activity 9.3: Exploration: Degrees of Support ... 171
  Activity 9.4: Survey: Participating in Ongoing Dialogue About Integration ... 172
  Activity 9.5: Planning for Ongoing Support for Integration ... 172
  Activity 9.6: Formative Evaluation ... 173
  Activity 9.7: To Do ... 173
Professional Development Seminar 10: Implementation and Evaluation of Integrated Instruction ... 187
  Activity 10.1: Exploration of Success of Academic and Career-Related Integration ... 188
  Activity 10.2: Adaptation: Videotape Evaluations of Integration ... 188
  Activity 10.3: Proposal To Integrate Instruction ... 188
  Activity 10.4: Presentation of Integration Proposal ... 189
  Activity 10.5: Formative Evaluation ... 189
Bibliography ... 199
Appendix A: Academic-Occupational Integration in Community Colleges: Classroom Examples from Case Studies ... 205
Appendix B: Employability Skills ... 219

ACKNOWLEDGMENTS

This manual was developed at the Community College Research Center, Institute on Education and the Economy, Teachers College, Columbia University, with funding through a grant to the National Center for Research on Vocational Education, University of California at Berkeley, from the U.S. Department of Education, Office of Adult and Vocational Education.

Practical ideas for professional development were gleaned from case studies at 13 community and technical colleges. Warm thanks are extended to all the administrators, instructors, and students who were so informative and cordial at the following participating sites:

- Adirondack Community College, New York
- Broome Community College, New York
- Bunker Hill Community College, Massachusetts
- City College of San Francisco, California
- Danville Community College, Virginia
- Delta College, Michigan
- Guilford Technical Community College, North Carolina
- Kingsborough Community College, New York
- Madison Area Technical College, Wisconsin
- McHenry County College, Illinois
- Nassau Community College, New York
- North Harris Community College, Texas
- Triton Community College, Illinois

This manual builds on pioneering work on academic-occupational integration by W. Norton Grubb, Norena Badway, Debra Bragg, Cathleen Stasz, and James Jacobs. The interpretation of the case studies was refined through discussions with researchers at the Community College Research Center. Ongoing intellectual guidance provided by Thomas Bailey is much appreciated. Special thanks to two anonymous reviewers, who made helpful suggestions. Lisa Rothman and Jennafer D'Alvia provided expert administrative assistance throughout the project. Finally, Daniel Ness assisted in the research for the earlier case studies.

7

Ambiance

- Teachers viewed as professionals
- Tasks designed by teachers
- Teachers' beliefs about specific reforms explored

Duration of Training

- Sustained, ongoing, and intensive
- Adequate time allowed for meaningful learning

Using the Manual: Frequently Asked Questions

What Is the Purpose of This Manual?

This manual is meant to serve as a guide for community college faculty and administrators attempting to integrate academic and career-related education. The manual is best used in a context in which the college has made a commitment to integrate instruction and is providing the support needed to implement it. The guide is written for seminar leaders who work with groups of faculty in a series of ten three-hour long seminars.

What Audience Are We Targeting?

The primary audience is comprised of faculty who have not yet integrated academic and career-related education; however, we recommend that professional development seminars include faculty who have experience in this area. Case study research indicates that mentoring of faculty who are novices in this area can provide considerable support for integrated instruction.

Who Will Lead the Seminars?

The materials are designed to be led by a single faculty member or administrator who is a skilled facilitator. It is preferred but not required that the leader be experienced in the integration of academic and career-related education. If the initiative is new to the college, the leader may need to learn alongside the seminar participants.

How Large Should the Faculty Seminars Be?

The activities are designed for a cohort of 15-30 faculty.

Over What Period of Time Should the Seminars Take Place?

Ideally, the ten seminars should take place at weekly intervals during one semester or quarter.

What Resources are Needed To Conduct the Seminars?

The seminars should take place in a conference room with movable tables and an overhead projector. Some of the handouts in the various sections would be useful as overhead transparencies; if these are used, the Seminar Leader will need to have them prepared in large font. Equipment for videotaping and viewing videotapes is needed for Seminar 10.

Occasionally, the Seminar Leader may wish to prepare materials in advance (e.g., in Activity 4.5). The Seminar Leader should visit the websites in Activity 8.10 and make any revisions to the handout to ensure that the material is current. Flip charts may be used during whole-group discussions, as in Activity 5.1. For Activity 6.7, the Seminar Leader will need to select an article on learning processes for distribution to the group and develop several discussion questions to prepare for Seminar 7. To promote group discussion the Seminar Leader should have blank overhead transparencies and markers on hand (e.g., Activity 6.2). The Seminar Leader will need to invite a faculty or staff member from the college's academic or computer lab for Activity 8.8.

How Do We Define Career-Related Education?

For the current purpose, career-related education refers to those programs, both degree and nondegree, that teach content, which can be directly applied to the work setting. Examples of such programs include allied health, automotive service, business, computer technology, engineering, and many others. Also included would be programs traditionally referred to as occupational education, technical education, and vocational education. Students graduating from career-related education programs may receive an AA, AS, or AAS degree or a diploma or certificate, for the purpose of entering the work force, advancing in a present career by either earning a degree or completing certain course work, and/or continuing with their postsecondary education in a four-year institution.

How Can the Seminars be Altered To Meet Various Needs?

The activities and materials can be used in their current form or can be modified to maximize their applicability to local needs and expectations, according to the range of faculty expertise with integration, their interests, the students' educational needs and career goals, and available resources.

How Much Time Is Required for the Professional Development?

The manual has been designed for ten formal three-hour seminars; however, suggested times are only estimates, and the activities can be adapted to be more or less formal. Use of the manual will depend on the goals of the college faculty and administration. For example, the professional development program could be used by a resource person or an individual faculty member as a guide in modifying a single course. It could also be used in connection with work shadowing experiences in industry or as a framework for staff development for a campus-wide movement toward integration.

OUTCOMES AND ACTIONS

This section details student and faculty outcomes and key actions accomplished in the professional development seminars.

Student Outcomes

Combining academic and career-related education makes general education courses more relevant to student goals and broadens occupational courses beyond job skills. Abilities and competencies that students can be expected to achieve through academic-occupational integration include the following:

General Abilities

- Will use the resources of community colleges, such as the library, computer lab, tutoring, reading and writing center, Internet access, career services, mentoring programs, and internships
- Will locate information in written and electronic sources
- Will know how to use a computer for Internet access and word processing

Professional Communication Skills (see Seminar 8)

- Will be able to comprehend and assess written materials
- Will use graphic organizers to support reading comprehension and organization in writing
- Will use editing and revising strategies to produce professional quality reports such as letters, memos, bullets, presentations, reports, and proposals
- Will apply language and literacy skills in context-specific ways
- Will apply study skills
- Will use journals to reflect on written material
- Will participate in teams
- Will work with others to build consensus, solve problems, and role-play

Transfer of Skills to Work Context

- Will understand the applicability of their course content (both academic and career-related) to the work setting
- Will learn employability skills (see Appendix B) in both academic and career-related courses

Faculty Goals and Outcomes

As a result of the professional development seminars provided below, faculty can expect to accomplish the following goals and outcomes:

General Goals

- To actively collaborate with one or more faculty in another discipline
- To modify selected units from own curriculum to integrate academic and career-related education
- To try out modified units in classrooms
- To revise units based on try-out and feedback

Outcomes

- Will critically evaluate the purposes and models of the integration of academic and career-related education and local applicability
- Will develop ways to collaborate across disciplines
- Will be familiar with the content and forms of assessment of courses in other disciplines
- Will apply a variety of learning strategies to integrate instruction
- Will utilize a variety of resources that can facilitate integrated instruction
- Will apply teaching strategies to facilitate transfer of knowledge and skill between academic and work settings
- Will develop a professional collaboration based on the various models explored
- Will identify institutional incentives and advantages and pitfalls of integrated instruction
- Will apply methods to evaluate the success of the integration of academic and career-related instruction
- Will write a proposal for institutional support or external funding

Key Action Steps in the Professional Development Seminars

Seminar 1: Discuss integration models and plan worksite visits.
Seminar 2: Select integration model and debrief on worksite visit.
Seminar 3: Discuss approaches to faculty collaboration.
Seminar 4: Examine course content and align selected units.
Seminar 5: Present aligned or modified course outlines.
Seminar 6: Develop peer interviews and observation process.
Seminar 7: Debrief on observations and plan student assignments.
Seminar 8: Identify employability skills (see Appendix B) in course outlines.
Seminar 9: Determine support needed to integrate instruction.
Seminar 10: Write proposal to integrate instruction.

FACULTY SEMINARS

The next section of this manual contains ideas for conducting ten half-day faculty development seminars. Numerous activities for building faculty expertise in integrating instruction are suggested. Decisions about pacing of the discussions, as well as the amount of introduction and review of concepts, are left to the discretion of the Seminar Leader. Seasoned instructors will probably prefer a faster pace and as much application to classroom practice as possible.

Participant Configurations

Seminar participants can work in various ways on the activities. The participant configurations suggested in the sections below are defined as follows:

- *Whole Group*: Activity includes all participants.
- *Self-Selected Groups*: Participants form small groups of their own choosing.
- *Rotating Pairs:* Participants pair up with individual colleagues in turn.
- *Academic and Career-Related Groups*: Academic faculty form self-selected, small groups, and career-related faculty form separate, self-selected groups.
- *Integration Partnerships*: Two or three participants will continue to work together in each professional development seminar.
- *Individual*: Each participant works alone on an activity during the time allocated for the seminar.

Case Material

In addition to the materials provided for each seminar, the Seminar Leader may wish to incorporate case material from Appendix A.

SERIES OF
PROFESSIONAL DEVELOPMENT
SEMINARS

Professional Development Seminar 1:
Purposes of Integrating Academic and Career-Related Education

Plan for Seminar 1

Activity	*Content*	*Participant Configuration*
1.1	Orientation	Whole Group
1.2	Site Application	Self-Selected Groups
1.3	Individual Application	Whole Group
1.4	Interviews	Rotating Pairs
1.5	Planning	Integration Partnerships
1.6	Formative Evaluation	Individual
1.7	To Do	Individual

Purpose

The purpose is to plan worksite visits and build familiarity with the benefits of integrating academic and career-related education by discussing integration models.

The participants will discuss the benefits of integration, especially as to how they relate to their college and reflect on how integration can best meet their own professional needs and interests, as well as those of the students, faculty, administrators, and industry. Then, they will interview faculty in the discipline other than their own (academic discipline or career-related discipline) to establish with which faculty they would like to collaborate for the purpose of integrating academic and career-related education. Before the end of the seminar, pairs of faculty will have created integration partnerships.

Use of Time

This seminar is divided into two segments. The Seminar Leader should decide whether to use both of them and how much time to allocate to each.

- During the first segment (Activities 1.1-1.3), the Seminar Leader will lead a discussion of integration, its benefits, and its challenges, after which, the participants will engage in a discussion relating this information to their college.
- During the second segment (Activities 1.4-1.7), the participants will interview and be interviewed by numerous faculty in the discipline other than their own (academic

discipline or career-related discipline) for the purpose of establishing with whom they would enjoy collaborating. They will finally choose a colleague with whom to collaborate in integrating academic and career-related education.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Integration, for our purposes, refers specifically to academic and career-related education.
- The goal is to facilitate students' transfer of knowledge and skills between academic and career-related courses, as well as between the classroom and the workplace.
- Integrated units are more student-centered.
- Integration affects the deep structures of the curricula, requiring that lessons be aligned and instruction and materials be modified.
- Attempts at collaboration for the purposes of integrating academic and career-related education need the support of the faculty *and* administration.

Activity 1.1
Orientation to Academic and Career-Related Integration

Format: Whole Group

Procedure

- The Seminar Leader will lead a discussion on the nature, purposes, benefits, and challenges of integrating academic and career-related education. It may be helpful for participants to read the material in the introductory section of this manual (summarized in Handout 1.1). Before beginning the discussion, it is important to clarify the terms *academic* and *career-related*, as defined in the introductory section.

Activity 1.2
Site Application: Advantages and Disadvantages of Integrating Academic and Career-Related Education

Format: Self-Selected Groups

Procedure

- Have the participants form self-selected groups of 3 or 4 persons.
- Using the guiding questions offered in Handout 1.2, engage the participants in a discussion relating the information given during the previous activity directly to the participants' colleges.
- The participants will discuss, within their self-selected groups, the possible benefits and pitfalls of integrating academic and career-related education in their college.
- They will then identify requirements for successful integration of academic and occupational education at the college.

Activity 1.3

Individual Application: Implications of Academic and Career-Related Education

Format: Whole Group

Procedure

- Begin by giving background information on the community college, instructor, course, and integration model used (see Handout 1.3).
- Read the quote.
- Using the guiding questions (also available in Handout 1.3), lead the participants into a discussion of challenges involved with integrating academic and career-related education, especially in terms of changes that might have to be made in the content and/or delivery of the lessons and the compromises inherent in any collaboration attempt.

Activity 1.4

Interviews: Collaborating for Integration

Format: Rotating Pairs

Procedure

- State that the participants will be interviewing each other. The purpose of these interviews is for each participant to familiarize him- or herself with the backgrounds and interests of faculty in a discipline other than their own (academic discipline or career-related discipline). In the end, they will choose a faculty member with whom they would like to collaborate in the integration of an academic and a career-related course.
- Provide the participants with the Interview Questions (see Handout 1.4), and ask them to develop their own questions to fit their needs and interests, keeping in mind that, ultimately, they will collaborate for the purpose of integrating academic and career-related courses.
- By the end of this activity, the participants will have formed their integration partnerships. Each of these pairs will comprise one instructor who teaches an academic course and one who teaches a career-related course.

Activity 1.5
Planning: Integrating Academic and Career-Related Courses

Format: Integration Partnerships

Procedure

- Participants will discuss and plan which courses they want to integrate and how they plan to integrate them (see Handout 1.5). At least two of the integration teams will present their plans informally to the whole group, using the items on Handout 1.5 as a framework for discussion.

Activity 1.6
Formative Evaluation

Format: Individual

Procedure

- Ask participants to answer the questions in Handout 1.6 and return it to you. Allow five minutes for this activity.

Activity 1.7
To Do

Format: Individual

Procedure

- State that each participant will be expected to visit a worksite for at least half a day, noting the skills and knowledge needed in the industry and the way in which these relate to the courses they teach. These visits may be arranged by the administration, a special team designated to this specific task, or by the participants and should take place before Seminar 2.
- If these visits are to be arranged by persons other than the participants themselves, have each participant fill out the Worksite Visit Application (see Handout 1.7.a) before leaving. State that they will be contacted shortly with the names and phone numbers of an industry contact and the date and time of the visit.

- Participants should consider issues on which to focus when they visit the worksite (see Handout 1.7.b).

Handout 1.1

Academic and Career-Related Integration: Concepts, Benefits, and Challenges

Concepts

- Connects academic and career-related courses
- Presents learning experiences that relate directly to workplace practices
- Promotes transfer of knowledge and skills between classroom and workplace
- Links knowledge and skills between courses

Benefits of Academic and Career-Related Integration

- Helps students respond to changing workplace practices
- Prepares students to be lifelong learners
- Promotes transfer of learning between general and career-related education
- Utilizes materials that have practical application in the workplace
- Increases use of student-centered approaches
- Raises motivation of students and faculty
- Fosters collaboration and communication between career and general education faculty
- Increases intellectual stimulation for both faculty and students

Challenges of Academic and Career-Related Integration

- Resistance to change from students, faculty, and administration
- Faculty workload
- Curriculum coverage
- Need for ongoing institutional support (e.g., release-time, reassigned time, increased staffing, and faculty stipends)
- Need for ongoing institutional leadership

Handout 1.2

Academic and Career-Related Integration: Guiding Questions

- How can academic and career-related instruction be integrated in this college?
- What specific needs will it address? (Consider the needs and interests of the faculty, students, administration, and industry.)
- What challenges do I foresee for the faculty in my program or department? In other programs or departments? For the administration? For the students? For me?
- What support might be needed for integrated instruction to be successfully implemented? (Consider faculty, administration, industry, and student support.)
- What are some potential benefits of integrating academic and career-related education at this college? (Consider how such issues as student retention, grade point average, employability, and student knowledge base may affect students, courses, departments, the college, and industry.)
- What may be some pitfalls? (Consider potential for faculty or student resistance, workload, time, and cost.)
- What institutional supports might be needed at this college for integration to be successfully implemented? (Consider specific issues in obtaining release-time, stipends, support from administration, and ongoing professional development.)

Handout 1.3

Individual Applications of Academic and Career-Related Integration

The College

Epsilon Community College (a pseudonym) is a large institution in the Midwest, serving approximately 18,000 urban and suburban students. Of those, approximately half have inadequate academic skills, especially in the area of writing.

Integration Model

The integration models used at Epsilon Community College are the learning community and single infused occupational courses. The learning community links nursing, English, and philosophy courses. The other learning communities in the college are general education only.

Impetus for Learning Communities

The purpose of the learning communities is to increase student learning and retention in programs.

The Instructor

This instructor teaches a freshman composition class which is linked to nursing and philosophy courses.

Quote

Collaboration for the purpose of integrating academic and career-related courses is not for every faculty member.

> You have to change the way you do things if you're a lecture type of person. You have to take the lecture materials to the bare bones. There is more group work and discussion [on the part of the students]. You have to shop around for other [faculty] with similar interests and teaching styles. Some are resistant to change . . . I have a new awareness of what's required in another profession. It's a humbling experience to be aware of other professions. We have a lot to learn from each other. You know you'll make mistakes, and go from there. You're willing not to be at the center, to allow the students to take center stage, to answer. You have to give up turf. (Perin, 1998)

Guiding Questions

- What steps would you need to take to begin collaboration with an instructor in another discipline?
- What characteristics, ideally, would you like the other person to have?
- Describe the characteristics and interests that you have that would facilitate a collaboration across academic and occupational disciplines (see Handout 1.4).

Handout 1.4

Interview Questions: Collaborating for Integration

Your Background

- With what department are you associated?
- What course(s) do you teach?
- Describe any experience you have with industry.
- What experience stands out in your mind as being especially important to your development as an instructor?

Your Students

- Who are your students (age, goals, priorities, strengths, weaknesses)?*
- What do you want students to learn?*
- What are the primary reasons students enroll in your course? (requirements)*
- Describe any team activities that you use in class.

Your Course

- What methods of delivery do you employ?*
- What prerequisite skills and courses are needed for student success in your course?*
- What outcomes indicate student success in your course?*
- What are the standards for performance in your classroom?
- Who decides on these standards? (accreditation body, the state, administration, department, you)
- On what basis do you select your course text?
- How much flexibility is possible in your course content and delivery?

Your Responsibilities as an Instructor

- How many hours per week do you teach?
- How many hours per week do you need to prepare?
- Describe how you grade students' work.
- Describe other responsibilities, such as lab set-up, supervision of clinical placements, and so on.

Your Comments on Integration

- What do you think integrated instruction would do for one of your courses?
- In which capacity are you interested in collaborating with another member of faculty to integrate instruction?
- Under what conditions would you consider collaboration to be ideal?
- What reservations do you have regarding collaboration?

---

*These questions where adapted from Boaz, M., Elliott, B., Foshee, D., Hardy, D., Jarmon, C., & Olcott, D. (1999).

Handout 1.5

Integrating Academic and Career-Related Courses: Guiding Questions

- Which courses will you attempt to integrate? (One should be an academic course and the other a career-related course.)

or

- What course will you attempt to modify, to incorporate academic or career-related knowledge?
- What benefits do you expect will occur due to integrated instruction? (Consider students, faculty, departments, administration, college, and industry.)
- What challenges do you foresee?
- How do you think you may address these?

Handout 1.6

Reflection Prompts: Collaboration for Integration

Formative Evaluation (anonymous)

- What are your general reactions to this session?
- Name one concept or practice that you found helpful.
- Do we need to change anything in future sessions (content, pacing, other)?

Please return to seminar leader.

Handout 1.7.a
Worksite Visit Application

Name ______________________________________ Date ____________________

Department ____

Phone ____________________________ E-mail ________________________________

I am interested in visiting a worksite in one of the following industries*:

_____ health care
_____ corporate
_____ carpentry
_____ refrigeration
_____ manufacturing
_____ air conditioning
_____ law
_____ finance
_____ electricity
_____ textiles
_____ sales
_____ service
_____ real estate
_____ media
_____ automotive
_____ fashion
_____ agriculture
_____ other (specify)

Other: ____

*We cannot guarantee that you will visit a worksite in the industry you select, only that we will try.

Days and times that I am available for a worksite visit of approximately three hours:

Mondays: ____
Tuesdays: ____
Wednesdays: ____
Thursdays: ____
Fridays: ____
Saturdays: ____
Sundays: ____

Handout 1.7.b
Issues to Consider During the Worksite Visit

- Describe the work environment.

- What do you observe various employees doing?

- What interpersonal, technical, and/or communication skills are required to complete their tasks?

- What is the level of responsibility of each employee observed in terms of problem solving or trouble shooting?

- What are the demands of the job?

- What type of contact do they have with each other?

- What kind of contact do they have with customers, clients, or patients? ______________________________

- What kind of contact do they have with management? ______________________________

- How do the observations relate to what I teach in class? ______________________________

- What surprised me? ______________________________

- Other thoughts or comments ______________________________

Professional Development Seminar 2: Models of Integration

Plan for Seminar 2

Activity	*Content*	*Participant Configuration*
2.1	Debriefing	Whole Group
2.2	Orientation	Whole Group
2.3	Site Application	Academic and Career-Related groups
2.4	Individual Application	Integration Partnerships
2.5	Identifying a Guest Speaker	Whole Group
2.6	Formative Evaluation	Individual
2.7	To Do	Individual

Purpose

The purpose is to build familiarity with various models of integration of academic and career-related education, select an integration model, and debrief on worksite visits. Participants will be debriefed about their worksite visits, focusing on how the skills and knowledge needed for work are related to their course content. Then, the participants will learn about and discuss various models of integration, their structure, purposes, and possible benefits and pitfalls, relating each to their college. Finally, they will decide how each would affect their partnership's effort to integrate their academic and career-related courses and decide on a model or variety of models for their use.

Use of Time

This seminar is divided into three segments. The Seminar Leader should decide whether to use all of them and how much time to allocate to each.

- During the first segment (Activity 2.1), participants discuss their worksite visits. Each participant will be given five to ten minutes (depending on the number of participants) to share what they experienced. Specifically, they will focus on the following three items: (1) how the skills and knowledge needed to succeed in the workplace relate to the skills and knowledge taught in their course, (2) how they think they can support the transfer of these skills and knowledge from the classroom to the workplace, and (3) aspects of the workplace that surprised them.

- During the second segment (Activities 2.2 and 2.3), the Seminar Leader will lead a discussion of the various models of academic and career-related integration and engage the participants in a discussion of each model's potential applicability to this college. The discussion focuses on the benefits and challenges associated with the various models, for example how they would relate to college mission.
- During the third segment (Activities 2.4 and 2.5), participants will, in their collaborative teams, decide on which model or variety of models they would like to use in their effort to integrate their academic and career-related courses.
- To prepare for Seminar 3, enlist two volunteers, one from an academic discipline, and one from a career-related discipline, to plan the role-play described in Activity 2.7.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize applicability to local needs and expectations, the following key concepts need to be addressed:

- Various models of integration exist and serve the needs of academic and career-related education differently.
- Combinations of these models may be used to maximize their benefits.
- These models need to be modified, even if only minimally, to fit the needs and purposes of specific courses, departments, and colleges, as well as the needs of specific faculty, students, and administrators.

Activity 2.1
Debriefing: Worksite Visits

Format: Whole Group

Procedure

- Depending on the number of participants, conduct this activity with the entire group, or have participants form large groups of up to 12 persons. These groups can be self-selected and may be arranged in any way; however, the more varied the professional backgrounds of the participants and the more varied the worksites they visit, the better.
- Ask participants to describe what they experienced. They should focus on linking the skills and knowledge needed in the workplace to those taught in their course(s), ways to incorporate the realities of the workplace within their course content and assignments, and relaying what surprised them (see Handout 2.1).

Activity 2.2
Orientation: Integration Models

Format: Whole Group

Procedure

- The Seminar Leader will present the five models of integration (see Handout 2.2), leading the participants in a discussion of their structure, purposes, and possible benefits and challenges.

Activity 2.3
Site Application: Analysis of Integration Models

Format: Academic and Career-Related Groups

Procedure

- Ask participants to form self-selected groups, preferably grouping academic faculty and career-related faculty separately. These groups should not exceed 4 persons.

- Ask the groups to discuss each model in Handout 2.2, identifying the potential advantages and disadvantages for students, faculty, college, and industry. Ask them to consider the general questions (see Handout 2.3).

Activity 2.4

Individual Application: Choosing an Integration Model

Format: Integration Partnerships

Procedure

- Participants will discuss the various integration models previously analyzed for the purpose of deciding which model or combination of models might best suit their particular effort (see Handout 2.4).
- The teams will modify the integration model(s) of their choice based on the requirements of their courses, their professional purposes and interests, and the needs of their students. The participants will define their instructional goals and how they hope to utilize an integration model to meet them. An informal plan of action will be drafted.
- At least two of the collaborative teams will share drafts of the plans with the whole group, briefly discussing the courses they plan to integrate, their goals for integration, the integration model they have chosen, and planned adaptations of existing models.

Activity 2.5

Identifying a Guest Speaker

Format: Whole Group

Procedure

- Participants should help identify a guest speaker for Seminar 6 (Activity 6.2). The speaker may be a faculty member from another community college who is teaching an integrated course or a member of an industrial advisory board who is knowledgeable both about workplace practices and college curriculum. The Seminar Leader could enlist participants' support in extending an invitation to the guest speaker and facilitating the visit. The speaker should be asked to talk about specific topics that have been discussed in Seminars 1 and 2. The Seminar Leader should work with participants to draft a set of questions to be addressed by the guest speaker.

Activity 2.6
Formative Evaluation

Format: Individual

Procedure

- Ask participants to answer the questions in Handout 2.6 and return it to you. Allow five minutes for this activity.

Activity 2.7
To Do

Format: Individual

Procedure

- One participant from an academic discipline and one from a career-related discipline should plan role-play exercises for Seminar 3 (Activity 3.2). The purpose of this experiential activity is to give the other participants a taste of daily life in the classrooms in question. Each of the two participants will be given one-half hour to "teach" the other participants skills or knowledge drawn from their respective coursework. For example, a physics instructor could teach a concept related to thermodynamics; a physical therapy instructor could teach concepts of weight-bearing; an English instructor could teach peer-editing skills; and a philosophy instructor could teach ideas about ethics. The volunteer instructors should employ methods and styles typical of their teaching. They should provide an assignment for their "students" to perform during Activity 3.2, complete with reading materials.

Handout 2.1

Worksite Visits: Guiding Questions

- What skills and knowledge did you observe employees using that relate to a course you teach?
- Based on your observations, how could your course be modified? (Think in terms of instructional approach, learning of content, materials used, nature of assignments, and group dynamics.)
- Did anything surprise you?

Handout 2.2

Five Integration Models

Linked Courses

Linked courses are also referred to as paired or tandem courses; they connect and align curriculum between academic and career-related courses. For example, a speech course and a business course could be linked by aligning their curricula to reinforce the content and skills learned in each one. The assignments would be aligned as well, and the link between the two would be made explicit to the students in the course outline, assignments, and class discussions.

Clustered Courses

Clustered courses are also referred to as learning communities; they also connect curriculum between one or more academic courses and at least one career-related course for cohorts of students who travel together to the career-related and academic courses. The curricula of these courses are aligned. Learning communities are groups of students who agree to take a cluster of courses during the same semester. Schedules must be blocked to permit this. The students may support each other through study groups. The linked course structure is taken one step further in that the students in these classes are required to take all of the courses offered in the cluster, thus creating a student unit, or a learning community.

Infused Occupational Courses

Infused Occupational Courses are career-related courses that build in academic skills, such as in writing-across-the-curriculum. The primary focus is on career-related content. For example, a nursing class may teach specific reading and writing skills in the classroom and may make use of the college academic skills center to support students in these areas. The main focus of the course, however, is on the content and skills of the nursing curriculum.

Infused Academic Courses

Infused academic courses teach academic skills using career-related themes. Their primary objective is the improvement of math, English, and professional communication skills as applied to specific work contexts. For example, a speech course may focus on the need for business students to master public speaking skills and create power point presentations. Real world scenarios would be used to add a authentic dimension and real application to course content. The primary focus, however, remains on the development of public speaking skills.

Hybrid Courses

Hybrid courses have a dual emphasis on career-related and academic content. For example, a business course may have a dual focus on business content and library research skills.

Source: Badway & Grubb, 1997

Handout 2.3

Integration of Academic and Career-Related Instruction: Analysis of Models

- Aligning curricula
- Incorporating workplace practices in the classroom
- Transferring knowledge and skills from the classroom to the workplace
- Meeting individual student needs and interests
- Meeting needs and interests of instructors
- Meeting program requirements
- Meeting college needs
- Meeting industry requirements
- Building professional communication skills (e.g., oral speech, writing, presentation, reading, editing, and computer use)
- Repetition of information across courses (advantage or disadvantage?)
- Faculty workload
- Student workload
- Time constraints
- Resources
- Incentives
- Applicability to various courses (Can all courses be integrated?)

General Questions

- What strengths do you attribute to each model?
- What weaknesses do you detect?
- Which model would be best suited to your program or department's needs?
- What conditions would need to exist for one or more of the models to be successfully implemented in your college?

Handout 2.4
Integration Plans

- Which model of academic-occupational integration have you chosen? Why?
- Describe how you plan to work together.
- With what other faculty will you need to work?

Handout 2.6

Reflection Prompts: Collaboration for Integration

Formative Evaluation (anonymous)

- What are your general reactions to this session?
- Name one concept or practice that you found helpful.
- Do we need to change anything in future sessions (content, pacing, other)?

Please return to seminar leader.

Professional Development Seminar 3: Strategies for Facilitating Collaboration

Plan for Seminar 3

Activity	*Content*	*Participant Configuration*
3.1	Orientation	Whole Group
3.2	Role-Play	Whole Group
3.3	Local Application	Self-Selected Groups
3.4	Formative Evaluation	Individual
3.5	To Do	Individual

Purpose

The purpose is to develop strategies to collaborate across academic and career-related disciplines.

Based on case material and participants' experiences, the faculty will become familiar with content and teaching styles across disciplines and consider how collaborations can be formed.

Use of Time

This seminar is divided into two segments. The Seminar Leader should decide whether to use each of them and how much time to allocate to each.

- During the first segment (Activities 3.1 and 3.2), the participants learn about and analyze each other's discipline and teaching skills.
- During the second segment (Activities 3.3 and 3.4), the participants will apply experience from previous attempts at collaboration to their current attempt. They will also explore the possible benefits and pitfalls of various collaboration strategies.
- Case material from Appendix A may be used in addition to the material provided for this seminar.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize applicability to local needs and expectations, the following key concepts need to be addressed:

- Various strategies exist for facilitating collaboration.
- Choosing strategies for facilitating collaboration must consider the needs of those involved, their interests and preferences, and their purposes for collaborating.

Activity 3.1
Orientation: Faculty Collaboration

Format: Whole Group

Procedure

- Begin by discussing the background information on the community college, the integration model used, and the instructor (see Handout 3.1).
- Read the excerpt from field notes.
- Enlist two volunteers from two different academic disciplines (e.g., English and philosophy), and two from two different career-related disciplines (e.g., radiology technology and information technology).
- Ask each in turn to answer the guiding questions in Handout 3.1, and lead a general discussion based on group questions at the end of the handout.

Activity 3.2
Role-Play of Academic and Career-Oriented Instruction

Format: Whole Group

Procedure

- Allow one half hour for each of the two role-playing exercises, described in Activity 2.7.
- At the end of the hour, lead a discussion of differences and similarities in teaching styles, philosophy, materials, and so on. Ask how differences in these areas might be accommodated as academic and career-related faculty collaborate in order to integrate instruction.

Activity 3.3
Local Application: Faculty Collaboration

Format: Whole Group

Procedure

- Using the guiding questions (see Handout 3.3), lead the discussion of participants' past attempts at collaboration.
- The participants will reflect on the ways in which these attempts were implemented, the purposes collaboration was to serve, whether these attempts were successful, and the reasons for this.
- Focus the participants' thinking on how past experiences may inform their current efforts to collaborate for the purpose of integrating academic and career-related education.

Activity 3.4
Formative Evaluation

Format: Individual

Procedure

- Ask participants to answer the questions in Handout 3.4 and return it to you. Allow five minutes for this activity.

Activity 3.5
To Do

Format: Individual

Procedure

Each participant should bring the following items to Seminar 4:

- Two copies of the course outline of the course they are integrating
- The textbook used in the course

- Any other materials or resources (e.g., sample assignments, workbooks, and lab sheets) that might be useful for others to understand the content, instructional methods, and modes of assignments critical to the course.

Handout 3.1
Faculty Collaboration

The College

Gamma Community College (a pseudonym), a suburban college, is part of a statewide university system in the northeast. Approximately 23,000 of its students are enrolled in degree programs and are planning to transfer to a four-year institution. Half of these students are enrolled in at least one remedial course. Many faculty members hold doctorates.

Integration Models

The integration models used at Gamma Community College are infused occupational courses and hybrid courses. The college does not use the term "integrated instruction," and prefers not to think of itself as focusing on terminal, occupational degrees; however, a vigorous "active learning" approach has been implemented in all programs, which builds in literacy and critical thinking skills to all courses. The approach aims to reduce classroom lecturing and increase collaborative and project-based learning. In the context of career-related courses, active learning is, in fact, a way of integrating instruction.

Excerpt from Field Notes

Faculty who collaborate across disciplines must learn to "speak the language of other faculty across disciplines" (Perin, 1998). To help faculty communicate across disciplines, a series of professional development seminars were held for instructors in different areas, who presented on their disciplines, focusing on vocabulary, thought processes, writing genres, types of questions asked, and pedagogical techniques. They modeled their teaching strategies using classroom materials. They created role-play exercises for the professional development participants using these methods and materials.

Guiding Questions for Academic and Career-Related Faculty

- Describe your discipline briefly.
- Describe a class you taught recently. What was one objective of the class? What did you ask the students to do?
- Describe the reading that you require.
- Describe a typical writing assignment, if applicable.

- To what extent are math skills required?
- What types of questions do you tend to ask the students?
- To what teaching strategies do they best respond?

Questions for the Group (after above discussion)

- What similarities and differences do you see among the four instructors?
- Do they use different language or vocabulary in talking about their disciplines and teaching? Explain.
- How can instructors across diverse disciplines collaborate, given the differences we have detected? How can diverse areas be connected and combined, to create a productive learning experience for students? What are the conditions necessary for collaboration to make this happen?

Handout 3.3

Past and Present Collaboration: Issues to Consider

Past Collaborations

Describe experiences you have had collaborating with other instructors in the past.

- What was the purpose of the collaboration?
- What worked well in the collaboration?
- Describe any pitfalls or challenges.
- Would you recommend this approach to others?
- How practical would it be now?

Planning New Collaborations

Which activities would help build a collaboration between an academic and a career-related instructor? How would these be accomplished?

- Interview each other.
- Observe each other's classes.
- Coteach a class.
- Videotape each other's classes.
- Meet regularly.
- Design specific tasks, and commit to a timeline.
- Obtain feedback from others on new ideas.

Handout 3.4

Reflection Prompts: Collaboration for Integration

Formative Evaluation (anonymous)

- What are your general reactions to this session?
- Name one concept or practice that you found helpful.
- Do we need to change anything in future sessions (content, pacing, other)?

Please return to seminar leader.

Professional Development Seminar 4:
Content and Modes of Assessment – Part I

Plan for Seminar 4

Activity	*Content*	*Participant Configuration*
4.1	Orientation	Whole Group
4.2	Exploration	Integration Partnerships
4.3	Adaptation	Integration Partnerships
4.4	Formative Evaluation	Individual
4.5	To Do	Integration Partnerships

Purpose

The purpose is to build familiarity with the content and forms of assessment of courses across various disciplines by examining course content and aligning lessons.

The participants will design an interview guide, which they will use with their integration partner to learn about the knowledge and skills that are most important for students to succeed in their respective courses. Then, they will discuss the course content and assessment as the basis for integrating the courses.

Use of Time

This seminar consists of a single segment devoted to course alignment.

- Participants will discuss various issues regarding collaboration. Next, they will review each other's course outlines and work on aligning them.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Understanding each other's content and modes of assessment is crucial to successfully integrating academic and career-related education, be it through infusion or linked courses.

- There is overlap between models, as even linked courses tend to have some degree of infusion. Career-related courses require academic skills in the completion of certain assignments, and academic courses may relate to career-related contexts.

Activity 4.1
Orientation: Degree of Integration

Format: Whole Group

Procedure

- Begin by discussing the background information on the community college, the instructor, the course, and the integration model used (see Handout 4.1).
- Read the excerpt.
- Using the guiding questions, lead a discussion of issues regarding integration.

Activity 4.2
Exploration of Course Content

Format: Integration Partnerships

Procedure

- Participants analyze their respective course outlines, discussing connections between them.
- Ask the partnerships to consider how each course reinforces or requires the knowledge and skills of the other, using Handout 4.2.

Activity 4.3
Adaptation: Aligning Courses

Format: Integration Partnerships

Procedure

- Using the information gathered about each other's course content and modes of assessment during the interviews, the integration partners will align their courses, planning specific assignments and modes of assessment (see Handout 4.3).

Activity 4.4
Formative Evaluation

Format: Individual

Procedure

- Through journal writing, the participants will reflect on their integration partnership's attempt to integrate academic and career-related education. They may wish to respond to the reflection prompt offered in Handout 4.4.

Activity 4.5
To Do

Format: Integration Partnerships

Procedure

Ask for an integration partnership to volunteer their course outlines for use in Activity 5.2. The Seminar Leader will need to make copies of both course outlines to give out to participants during Seminar 5.

Handout 4.1
Dilemma: Degree of Integration

The College

Alpha Community College (a pseudonym) is part of a large urban university system in the northeast. At the time of the study, 9500 students were enrolled in degree programs, with 25% in the business program. Seventy percent of the students were non-English-speaking immigrants, with one-third testing into English-as-a-Second-Language (ESL) remediation.

Integration Model

The integration model used at this community college is that of linking courses, affecting mostly the ESL students. Most of the links were between nondegree-credit ESL and degree-credit general education courses, with little occupational involvement. A computer information systems course was, however, being linked with ESL for the first time during the case study.

Impetus for Approach

Based on recommendations made by the community college's ESL committee, course linking was created to accelerate the ESL students' entry to college degree programs and assist them in understanding course content in their majors.

The Courses

An intermediate level ESL course was linked to an introductory computer course for business students.

The Instructors

The instructor of the ESL course was a full-time, tenured instructor who held a PhD in English as a Foreign Language. She had already been teaching at ACC for six years.

The instructor of the computer course was a full-time, tenure-track assistant professor with an MBA. At the time of the study, he had been teaching at ACC for seven years, prior to which he held a senior executive position at an international company.

The Classes

The ESL class was observed during the first three weeks of the semester. Two tutors were present to assist the students, who had formed two groups, in responding to comprehension questions based on a classic novel. The questions related to various elements of a story, including characters and setting. The tutors read the questions, and the students answered. During this time, the instructor met with individual students to review papers they had written.

The computer class was observed on the same day as the ESL class with which it was linked. This class involves half classroom and half lab instruction. The lab instruction provided individualized instruction, and the instructor lectured during the classroom portion. The class observed was a lecture and began with students being asked to copy an elaborate chart that was on the board. The instructor then reviewed previous information, presented new concepts, and went over homework assignments. A majority of students took notes, and a few participated in brief discussions prompted by the instructor's questions. Other than that, student participation was minimal.

Scenario

Looking at the syllabi for both courses, the course descriptions mention the link between the two courses but do not refer to each other's content in listing the objectives or assignments. Furthermore, the instructor of the computer course did not mention anything specifically related to the content of the ESL course, although he did state that many students were ESL and offered the possibility for them to ask for clarification of terminology. The content of the ESL instruction was similarly divorced from that seen in the computer class. Each course proceeded on its own with little or no reference to the other, although the same students were attending both.

Guiding Questions

- To what degree should linked courses be infused with each other's content? How closely aligned should the course outlines of two linked courses be?
- If courses are formally linked, should the content of one course be stated explicitly in the other's course outline, objectives, class discussions, and assignments?

- Consult with your integration partner as to whether and how you can make the links between your courses explicit in the course outline, objectives, class work, and assignments.

Handout 4.2
Analysis of Course Outlines: Background Questions for Integration Partners

- What knowledge and skills are necessary for students to succeed in your course? (including professional communication and career-specific skills)
- Do you ask your students to use any out-of-class resources, such as the computer lab, to support their learning? Please specify.
- How do you assess the learning of knowledge and skills?
- What can I teach in my course to support students' learning in your course?
- What could you teach in your course to help students in my course?
- Are there any areas that we are both teaching? Should this duplication be retained? Does it provide reinforcement or is it boring to students to learn the same thing in two different classes?
- What can we both do to help students transfer their learning from your course to mine and vice versa?
- Can we distribute our expertise over the two classes? **Example:** Students write a paper that meets needs of both courses; each instructor grades it on a different basis, depending on course requirements.

Handout 4.3

Course Alignment: Points to Consider

- Identify points in both courses when key concepts are taught. How can links be made to deepen learning?
- When are tests given or assignments due in each course? Can a common calendar be developed for the students? Should test dates be changed to ease the students' burden or to create better connections between topics?
- Is there potential for assigning common projects?
- Is there potential for cross-teaching (one instructor teaching a topic in the other course)?
- Can a worksite visit be planned that would meet the needs of both courses?
- Are there any accreditation or other constraints to bear in mind when modifying the courses?
- Can an industry advisory board help in suggesting areas in which connections could be made between the two courses?
- Add your own other points and questions.

Handout 4.4

Reflection Prompt: Collaboration For Integration

- Comment on the collaboration process during this session. Consider your role, involvement, interests, successes, and challenges. Comment on materials you have generated. Consider the possibility of future use, their applicability to your course, as well as any ideas you may have for improving them. Comment on any concerns regarding the collaboration process and your attempts at integrating academic and career-related education and suggestions, ideas, and actions you think should be taken (e.g., feedback you could offer the Seminar Leader regarding a specific issue).

Professional Development Seminar 5:
Infusing Study Skills into Career-Related Courses

Plan for Seminar 5

Activity	*Content*	*Participant Configuration*
5.1	Orientation	Whole Group
5.2	Case Focus	Integration Partnerships
5.3	Debriefing	Whole Group
5.4	To Do	Integration Partnerships

Purpose

In this session, participants modify a list of study skills and discuss how the skills can be infused in career-related instruction. They go on to work in their integration partnerships to infuse the study skills in specific courses and then, present their ideas to the whole group.

Use of Time

This seminar is divided into three segments. The Seminar Leader should decide whether to use each of them and how much time to allocate to each.

- During the first segment (Activity 5.1), the whole group works together to modify a list of study skills. The Seminar Leader should use a flip chart to record ideas generated.
- During the second segment (Activity 5.2), the pairs of faculty who are working to integrate their courses should meet together to discuss how the study skills can be infused in career-related courses.
- During the third segment (Activity 5.3), each of the integration partnerships should debrief the group on their plans for infusing the study skills.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Study skills are essential for students as lifelong learners. Often students' difficulty in learning course material is related to difficulties they have developing strategies for comprehending text, planning their writing, and managing their time.
- Studying includes the application of learning techniques in the classroom and developing strategies to become self-directed learners outside of the classroom.
- Studying involves the development of awareness of and ability to regulate one's own learning process. Students develop metacognitive strategies—they can reflect on what they know and learn to learn what they do not know.
- Study techniques help students set purposes for learning and absorb and remember information presented in textbooks, oral presentations, the media, and other sources.

Activity 5.1
Orientation to Study Skills and Strategies

Format: Whole Group

Procedure

- Ask the group to generate a few definitions of study skills, and ask them how they are already incorporating them in their teaching. In particular, ask the career-related faculty to describe the study skills they see as important to mastering the material they teach. Ask them to specify their students' current need for study skills.
- Lead the group in a discussion of Handout 5.1.
- Record comments and additions on a flip chart.

Activity 5.2
Case Focus: Integrating Study Skills

Format: Integration Partnerships

Procedure

- Ask the pairs of faculty who have formed integration partnerships to select one or more study skills from the list in Handout 5.1 and plan a student assignment using course reading material. Handout 5.2 can be used to guide this activity.
- Ask two of the partnerships to volunteer to debrief the group in Activity 5.3 below. Provide them with blank overhead transparencies and markers.

Activity 5.3
Debriefing on Integration of Study Skills in Career-Related Instruction

Format: Whole Group

Procedure

- Ask the two integration partnerships who volunteered above to present their student assignments to the group, using the transparencies they prepared in Activity 5.2.
- Invite reactions to the partnerships' ideas, identifying areas where they might need support to facilitate their students' learning of study skills.

Activity 5.4
To Do

Format: Integration Partnerships

Procedure

- Ask one of the partnerships to volunteer to lead a role-play of the use of study skills in a career-related course. The partnership should select one of the skills they have been working on in Seminar 5. The career-related member of the integration pair should plan to lead the role-play in Seminar 6. He or she will need to come in with an assignment that the other participants will do during the activity.

Handout 5.1

Integration of Study Skills and Strategies in Career-Related Instruction

Discussion Questions

Using either a linked course or occupational infusion model, how can study skills be incorporated into career-related instruction? Which study skills below are critical for students in career-related programs? Are there any skills that have been omitted from the list below?

Examples of Study Skills and Strategies (Guidelines for Students)

I. Remembering Information
    A. The Remembering Strategy
        1. Select
        2. Remember
        3. Review
    B. Mnemonic Devices
        1. Visualization
        2. Association
        3. Application
        4. Repetition
        5. Rhymes
        6. Acronyms
        7. Abbreviation
        8. Peg Words or Rhyming Words

II. Reading and Taking Notes from Textbooks
    A. Survey Technique (for previewing textbook chapter)
        1. Analyze chapter title.
        2. Analyze subtitles.
        3. Analyze visuals.
        4. Search introductory paragraphs for important ideas.
        5. Search concluding paragraphs for summary of content.
        6. Identify the main idea of the chapter.

B. SQ3R

1. *Survey*: Decide on purpose of reading, and review chapter, using Survey Technique above.
2. *Question*: Generate questions to guide reading. For example, restate boldface subheadings as questions.
3. *Read*: Keeping purpose and questions in mind, read the material.
4. *Recite*: Pause periodically and "recite" information (i.e., think about the reading and answer the questions previously formed).
5. *Review*: After reading, review the material, summarize, or take notes on important information.

III. Taking Notes From Class Presentations

A. Get Ready

1. Have enough paper and pencils ready.
2. Review notes from the last class.
3. Complete assigned readings.
4. Ask the teacher to specify the purpose of the presentation when it is unclear.

B. Taking Notes

1. Use one side of the paper only. After the lecture, use the other side to reproduce and add to main ideas.
2. Skip lines to show changes in ideas.
3. Write ideas or phrases—not whole sentences.
4. Underline information the teacher emphasizes as important.
5. Write down *all* information the teacher writes on the chalkboard or overhead.
6. Leave blanks for information that is missed, and fill it in at a later time by asking the teacher or looking it up in the text book.
7. Don't worry about spelling.
8. Listen to the lecture actively; Don't copy everything down, but continually be thinking about the information and deciding if the information is important.
9. Make certain notes are clear and legible.
10. Write the notes in your own words, except for technical terms that need to be written exactly as presented.

11. Be alert for clues that certain information is important. For example, pauses or volume changes in the teacher's voice.
12. Include examples in notes.
13. Do things that make it easier to concentrate, such as sitting in the front.
14. Utilize structure provided by the teacher. For example, if a teacher says, "There are three examples," automatically make a list numbered 1, 2, 3.
15. Increase note taking speed; use abbreviations that you will understand and remember.
16. Don't write down something that is already known.

C. After Notes
1. Add important information left out.
2. Complete any blanks.
3. Write definitions for unknown words.
4. Use the side of your notes that you left blank to rewrite confusing information, highlight important details, and create final notes.

IV. Writing a Research Paper

A. Choosing a topic
1. Is the topic too broad or too narrow?
2. Is there enough factual information on the topic?
3. Are you interested in the topic?
4. Has the topic been approved by your teacher?

B. Locating Sources of Information
1. Reference books
2. Journal articles
3. Magazines
4. Newspapers
5. Books

C. Preparing Bibliography Cards – prepare 1 card for each source you will use. Include the full citation of the source. Once completed, arrange these in alphabetical order.

D. Preparing Note Cards – Notes should be written on index cards and numbered to keep them in order. One idea should appear on each card. Arrange the cards in the order that you wish to use the information in the paper.

E. Writing the Paper
  1. Introduction – should tell the reader what the paper is about.
  2. Body – contains the important information from the note cards.
  3. Conclusion – the ending of the paper, where the essential meaning of the information is presented and tied together.

V. Taking Tests

A. Getting Ready
  1. Ask the teacher what information will be covered on the test.
  2. Use the SQ3R technique to read all textbook assignments and take notes.
  3. Review all lecture notes, and revise them as necessary.
  4. Schedule time to begin studying five days before the test.

B. Preparing for the test

Day 1 – Review textbook notes for all assigned readings.

Day 2 – Use the techniques for remembering information; start to memorize important textbook and lecture material.

Day 3 – Rewrite both textbook notes and lecture notes in a briefer form.

Day 4 – Write questions you think will be on the test. Answer them.

Day 5 – Review written textbook and lecture notes. Just before the test, review these notes briefly, paying attention to any information that you are having particular difficulty remembering.

VI. Using Time

A. Make a semester calendar; record all important due dates as they are given by the teacher. This allows you to plan your work, visualize when each project is due, and plan accordingly as to when the projects should be started.

B. Use a weekly planner; this provides a more detailed view of what is due, and how each day in the week should be scheduled. In the weekly planner, you should write in all meetings, classes, out-of-school plans, and due dates of assignments.

C. Make a daily organizer; each day before school, review the weekly planner, and determine what needs to be accomplished that day. List all times. At the end of the day, review what was not accomplished on the "to do" list, and prioritize it for the next day.

D. Make sure your study habits allow you to get the most out of the time you spend.

    1. Start working on time.
    2. Don't daydream.
    3. Don't take phone calls during study time.
    4. Take short breaks when you feel fatigued.
    5. Begin with the hardest task.
    6. Review your notes before starting an assignment.
    7. Finish one assignment before starting another.
    8. Have a "study buddy" you can contact when you need information you don't have or when you don't understand something.
    9. Begin studying for a test five days before it will be given.

General Guidelines for Students to Maximize Use of Study Skills

- Form a study group; work with a group of students on an assignment.
- Use a dictionary to look up definitions and check spellings.
- Freewrite; write spontaneously to begin to interpret information you have just read. Without thinking too much about the writing process, record your reactions and ideas about the material.
- Write in a structured manner to develop your thoughts. Write your thoughts about the material you are learning, and then reread and revise what you have written.
- Use a double-entry journal (see Seminar 8).
- Make comparisons between what you've just read or heard in class and something you've learned in the past.
- Make observations. Study the material to identify the underlying principles.
- Rewrite the material in a different form. For example, rewrite several paragraphs from a textbook chapter in bullet form.
- Outline the key points discussed in class. Write a summary based on these points.

- Write a critique of a class discussion or a lecture.
- Practice listening, for example by listening more carefully to friends when they speak.
- Read assigned material before going to class.
- Complete homework assignments on time.
- Change your seat in class. (Do you listen and learn differently?)
- Ask questions in class.
- Develop a higher level of interest in the material.
- Keep up with the work.
- Reflect on your mood and how it affects your learning.
- Reflect on how you can change bad habits such as coming late to class.
- Maintain a good attendance record.
- Reflect on your eating habits. Eat nutritious food that will promote your ability to learn.
- Adjust your work schedule to promote learning.
- Be responsible for your own learning.

Note: This list was adapted from case material provided by Gamma Community College (Perin, 1999).

Selected References for Faculty: Study Skills Research

Ablard, K. E., & Lipshultz, R. E. (1998). Self regulated learning in high achieving students: Relations to advanced reasoning, achievement goals, and gender. *Journal of Educational Psychology, 90*(1), 94-101.

Anderson, T. H., & Armbruster, B. B. (1984). Studying. In Pearson (Ed.), *Handbook of Reading Research.* New York: Longman.

Borowoski, J., & Kurtz, B. (1987). Metacognition and executive control. In J. Borkowski & J. Day (Eds.), *Cognition in special children: Comparative approaches to retardation, learning disabilities, and giftedness* (123-150). Norwood, NJ: Ablex.

Brown, A. L., & Palincsar, A. M. (1982). Inducing strategic learning from texts by means of informed, self-control training. *Topics in Learning and Learning Disabilities, 2,* 1-17.

Elliot, A. J., McGregor, H. A., & Gable, S. (1999). Achievement goals, study strategies and exam performance: A mediational analysis. *Journal of Educational Psychology, 91*(3), 549-563.

Kiewra, K. A. (1991). Aids to lecture learning. *Educational Psychologist, 26*, 37-53.

Kintsch, W. (1994). Text Comprehension, learning, and memory. *American Psychologist, 49*, 294-303.

Purdie, N., Hattie, J., & Douglas, G. (1996). Students' conceptions of learning and their use of self-regulated learning strategies: A cross cultural comparison. *Journal of Educational Psychology, 88*, 87-100.

Weinstein, C. E., & Hume, L. M. (1998). *Study strategies for lifelong learning*. Washington, DC: American Psychological Association.

Wood, E., Willoughby, T., McDermott, C., Motz, M., Kaspar, V., & Ducharme, M. (1999). Developmental differences in study behavior. *Journal of Educational Psychology, 91*(3), 527-536.

Handout 5.2

Case Focus: Integrating Study Skills

Guidelines for Integration Partnerships

- Select text assigned in the career-related course. **Examples:** textbook chapter, newspaper article, section of a technical manual, instructions for working with patients in an allied health course.
- Select one or more study skills from Handout 5.1. Discuss how these may be integrated. Should an academic faculty member come into the career-related course and teach this skill? Is the career-related faculty member able to teach it, given the limited time available for curriculum coverage? How will faculty determine that students are applying the skills?
- Design an assignment for the career-related course. The students will learn material that would normally be taught in the course, with study skills built in.
- If you are volunteering to debrief the whole group on your assignment, present it on overhead transparencies, provided by the Seminar Leader.

Professional Development Seminar 6: Facilitating Collaboration Through Interviews and Observations

Plan for Seminar 6

Activity	*Content*	*Participant Configuration*
6.1	Orientation	Whole Group
6.2	Presentation	Whole Group
6.3	Designing Materials	Academic and Career-Related Groups
6.4	Adaptation	Integration Partnerships
6.5	Survey	Integration Partnerships
6.6	Formative Evaluation	Individual
6.7	To Do	Individual

Purpose

The purpose of this session is to familiarize faculty with content and strategies related to integration instruction. A guest speaker will make a presentation. Then, academic and career-related groups will modify existing peer interviews and observation guidelines. Finally, the integration partnerships will adapt these interviews and observation guidelines as they work toward the integration of their courses.

Use of Time

This seminar is divided into three segments. The Seminar Leader should decide whether to use all of them and how much time to allocate to each.

- During the first segment (Activities 6.1 and 6.2), partnerships will discuss case material, and a guest-speaker from another community college will present on the college's attempt to integrate academic and career-related instruction.
- During the second segment (Activity 6.3), the participants will develop interview and observation guides designed to assist in the understanding of program directions. Specifically, the purpose of these guides is to learn about course foci, curriculum requirements, assignments, and instructional methods and materials.
- During the third segment (Activity 6.4), the integration partnerships will adapt these guides in the context of their own attempts at collaboration for integration. They will also create an action plan.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Even when faculty members from different disciplines are highly committed to working together, differences in philosophies and teaching approaches may present obstacles.
- Understanding others' priorities and interests—be they imposed by industry, state accreditation requirements, graduation requirements, four-year transfer policies, your college, departments, colleagues, students, or even yourselves—facilitates collaboration.
- Peer interviews can create a framework for understanding others' needs, priorities, and interests.
- Observing each other's classes allows for more meaningful and productive collaboration.

Activity 6.1
Orientation: Committed to Collaboration

Format: Whole Group

Procedure

- Begin by discussing the background information on the community college, the instructor, the course, and the integration model used (see Handout 6.1).
- Read the excerpt from field notes.
- Using the guiding questions, lead a discussion of challenges to collaboration between the academic and career-related faculty.

Activity 6.2
Guest Speaker

Format: Whole Group

Procedure

- A guest speaker will present and interact with participants for approximately 40 minutes (see Activity 2.5). The speaker is either a faculty member from another institution or an industrial advisory board member. Ample time should be left for questions and discussion.

Activity 6.3
Designing Materials To Facilitate Collaboration

Format: Academic and Career-Related Groups

Procedure

- Form groups made up of academic and career faculty respectively (approximately four instructors per group).
- State that the purpose of this activity is for the groups to develop interview questions and observation guides that will be used with faculty beyond their immediate area. This activity builds on the interviews conducted during an earlier seminar and is meant to be used with faculty outside of the seminar context.

- The groups should focus on information about themselves, their courses, their programs, and their departments. The rationale for creating groups within the same disciplines is that the interview questions and observation guides they design together will communicate the needs and priorities of their disciplines to people outside those areas.
- Using the Sample Interview Questions (see Handout 6.3.a) and the Sample Classroom Observation Guide (see Handout 6.3.b), have groups brainstorm possible goals of interviews and observations within a framework of facilitating collaboration for the purpose of integrating academic and career-related courses.
- Have the groups develop their own interview questions and observation guides in order to communicate their needs, interests, and priorities. Ask one of the groups to debrief the larger group.

Activity 6.4

Adaptation: Personalizing the Observation Guides and Interview Questions

Format: Integration Partnerships

Procedure

- The partnerships will adapt the interview questions and observation guides to meet their specific needs.
- Each partner will then interview the other member of the pair.
- Partners will set a date to observe each other's class before Seminar 7.

Activity 6.5

Survey: Facilitating Collaboration

Format: Integration Partnerships

Procedure

- Participants will discuss means of communication to facilitate collaboration (e.g., e-mail, brown-bag lunches, professional gatherings, informal get-togethers, newsletters, videotaping, coaching, and the like) and how some of these can be realistically incorporated into their collaboration effort (see Handout 6.5).

Activity 6.6
Formative Evaluation

Format: Individual

Procedure

- Ask participants to answer the questions in Handout 6.6 and return it to you. Allow five minutes for this activity.

Activity 6.7
To Do

Format: Individual

Procedure

- The Seminar Leader should select an article or chapter for duplication and distribution to the participants. Perhaps a chapter from O'Banion (1994) or Grubb and associates (1999) would be appropriate. The Seminar Leader should prepare several questions based on this material for use in Seminar 7.

Handout 6.1

Committed to Collaboration

The College

Phi Community College (a pseudonym) is part of a large university system in the Midwest. It has a full-time faculty of approximately 500 instructors and a part-time faculty of approximately 350. It is heavily unionized.

Integration Model

While the college does not formally integrate academic and occupational education, many courses emphasize SCANS (1991) competencies, and some utilize writing-across-the-curriculum. Professional development seminars rely on the Six Principles of the Learning College from Terry O'Banion's (1994) *Teaching and Learning in the Community College*.

The Instructor

The instructor is a full-time instructor in science who teaches courses in anatomy and physiology, among others. Although he is not involved in integrating academic and career-related instruction, he has a long history of collaborating with other instructors in several allied health fields outside his department. He has also collaborated with several colleagues in his own department through team teaching.

Quote

There needs to be a

> desire and willingness [for successful collaboration]. It cannot be imposed. The parties have to be committed to it. You can't be overly territorial. There has to be give and take. You can't say we're going to cooperate by doing things my way. You have to rethink what you do—you have to do what's best for the students. (Perin 1998)

Guiding Questions

- What "territory" is often protected, and why?
- If the science instructor collaborates with a radiology technology instructor to link courses, what kinds of "give and take" would you expect to occur?

- What experiences have you had with team teaching? What are the advantages and disadvantages?

Handout 6.3.a
Sample Interview Questions

Interview objective ____

____

____

Name of interviewee ____________________ Date ____________

Department and program ________________________________

Example of course ____________________________________

(All questions below are related to this course.)

Nature of Course (check one) ____ General education ____ Career-related education

Credits applicable to ____ AA or AS ____ AAS ____ Diploma ____ Certificate

Goals and Course Design

- What are your goals for this course? ____________________

  ____

  ____

- How much flexibility do you have in designing the curriculum? ____________

  ____

  ____

Instruction and Assessment

- Would you describe your instruction as teacher-centered, student-centered, or a mixture? Explain. ____________________

  ____

  ____

- If students need help with basic academic skills (study skills, reading comprehension, writing, basic math computation), do you teach these explicitly or find some other way of helping them? Explain. ____

- Do you tend to teach technical skills, general themes, or a mixture? Explain. ________

- What are the three most important forms of assessment used in calculating grades for the course? ____

Materials

- What three types of materials do you use most frequently in the course? __________

- If applicable, who decides on the central text for the course? ____________________

Student Learning

- What do you see as the major student learning outcomes? ______________________

- What do you see as the major challenges to achieving these outcomes? ___________

Curriculum Integration

- What model of integration would most benefit the students? ____________________

  ____

  ____

- What knowledge and skills taught in your course would you like to see reinforced through integration? ____

  ____

  ____

Handout 6.3.b
Sample Classroom Observation Guide

Date __________________ Time _______ Observer's name ________________________

Course being observed ____

Instructor's name ____

- Take separate notes on the sequence of events observed.
- Provide information for the following items that are applicable to your situation. Provide specific, concrete examples of what the instructor and students say and do wherever possible.

Setting

- Physical environment
- Ambiance: personal, social environment; student-teacher relationships

Purpose and topic of the class session

Instructional methods and tasks

Instructional materials

Types of learning and interaction

- Lecture
- Small group, project-based
- Students are active in the learning process.
- Students answer questions (short answers, elaborate answers).
- Students ask questions.
- Students debate points with instructor.
- Students debate points with each other.
- Students reflect on misunderstandings.

Teacher style (teacher-centered, student-centered, mixed)

Types of questions asked by teacher (require statement of literal information; require analysis, evaluation, interpretation)

Instances of:

- Critical thinking, problem solving
- Brainstorming

- Teamwork
- Listening
- Speaking
- Reading
- Writing
- Students' understanding of what teacher says
- Students' understanding of purpose of assignment
- Examples of misunderstandings and how they are clarified

Instances of Bloom (1956) taxonomy

- *Knowledge* – storage, retrieval of objective information.
- *Comprehension* – understanding meaning of objective information.
- *Application* – use of information to solve problems.
- *Analysis* – break down information or ideas to constituent parts.
- *Synthesis* – construct larger bodies of information and ideas.
- *Evaluation* – make reasoned judgments about information and ideas.

Instances of learning strategies

Student affect (relaxed, formal, informal, anxious)

Attitude

Concentration

Information processing

Motivation

Time management

Understanding key points

Self testing

Study aids

Test strategies

Links to other courses and content

- The instructor makes reference to knowledge and skills in another course.
- The instructor incorporates themes and content beyond the immediate scope of the course.

Handout 6.5
Facilitating Collaboration

Below is a list, by no means exhaustive, of ways one could use to facilitate collaboration.

Plan to implement at least one of the following activities this semester, if practical. Bear in mind that the activity should facilitate integration of academic and career-related instruction.

- Brown-bag lunches
- Coaching
- Electronic bulletin boards
- E-mail
- Informal get-togethers
- Newsletters
- Professional gatherings
- Videotaping
- Worksite visits
- Other (describe) ____________________

____

____

____

Handout 6.6

Reflection Prompts: Collaboration for Integration

Formative Evaluation (anonymous)

- What are your general reactions to this session?
- Name one concept or practice that you found helpful.
- Do we need to change anything in future sessions (content, pacing, other)?

Please return to seminar leader.

Professional Development Seminar 7:
Facilitating Transfer of Knowledge Across Settings

Plan for Seminar 7

Activity	*Content*	*Participant Configuration*
7.1	Debriefing	Self-Selected Groups
7.2	Orientation	Whole Group
7.3	Presentation	Whole Group
7.4	Industry Application	Self-Selected Groups
7.5	Application	Integration Partnerships
7.6	Adaptation	Integration Partnerships
7.7	Formative Evaluation	Individual
7.8	To Do	Individual

Purpose

The purpose is to build familiarity with strategies that promote students' transfer of knowledge and skills between academic and work settings, debrief on observations, and plan student assignments.

The participants discuss the observations they have made of each other's classes. Then, they will discuss some legislation regarding education and the economy, relating it to the purposes of integrating academic and career-related education. They will consider the possible benefits and pitfalls of incorporating workplace experiences, problems, and materials in their courses. They will apply the contents of this seminar as they develop an integrated unit that incorporates work-related themes.

Use of Time

This seminar is divided into three segments. The Seminar Leader should decide whether to use all of them and how much time to allocate to each.

- During the first segment (Activities 7.1-7.3), the participants will discuss their experiences in observing each other's classes. Then, the Seminar Leader will introduce various legislation relating to community colleges, focusing on School-to-Work and Tech-Prep, Perkins funding, Goals 2000, and the SCANS competencies. The Seminar Leader will outline some key points and discuss beliefs about the integration of academic and career-related education.

- During the second segment (Activity 7.4), the participants will discuss industries' interest in cooperating with community colleges. Important skills required of employees in various industries will also be explored. The participants will consider approaches such as internships and workplace observations that promote the transfer of knowledge and skills between academic and work environments.
- During the third segment (Activities 7.5 and 7.6), the participants will generate assignments and utilize workplace experiences, problems, and materials. Then, the integration partnerships will decide how they could modify instruction in order to increase students' generalization of knowledge and skill between college and work.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Proponents of academic-occupational integration have claimed that integration benefits all students—those hoping to enter the career world soon, those already working, and those aiming to transfer to a four-year institution.
- Engaging in both abstract activities, such as those traditionally offered in the school setting, and practical activities, available through first-hand work experience, promotes the transfer of knowledge and skills across academic and work settings.

Activity 7.1
Debriefing: Classroom Observations

Format: Self-Selected Groups

Procedure

- Ask participants to form into self-selected groups of four to six persons.
- Ask the groups to discuss their peer classroom observations, using Handout 7.1.

Activity 7.2
Orientation: Industry Influence

Format: Whole Group

Procedure

- Ask the participants to read Handout 7.2.
- Lead a discussion, using the guiding questions.

Activity 7.3
Presentation: Legislation Affecting Integration

Format: Whole Group

Procedure

- Using Handouts 7.3.a and 7.3.b, the Seminar Leader will introduce the legislation as it relates to community colleges' efforts to integrate academic and career-related education.
- Then lead a discussion of the implications of the above legislation for the community college (see Handout 7.3.c for guiding questions).

Activity 7.4
Industry Application

Format: Self-Selected Groups

Procedure

- Have participants form self-selected groups of four to six persons.
- Read the quotes in Handout 7.4.
- Using the guiding questions, lead a discussion of the knowledge and skills that various industries expect of their employees, focusing on the community college's role in teaching them.

Activity 7.5
Application: Combining Course Work and Career Themes

Format: Integration Partnerships

Procedure

- Have participants work in their integration partnerships.
- The purpose of this activity is for the partners to develop ways to facilitate the transfer of skills and knowledge across settings so as to encourage meaningful application of abstract knowledge and skills.
- The partners will design at least one of three activities that incorporate career themes in instruction (see Handout 7.5).

Activity 7.6
Adaptation: Promoting Transfer of Knowledge and Skills

Format: Integration Partnerships

Procedure

- Participants will determine various ways to facilitate students' transfer of knowledge across the academic and work settings using both informal means (see Handout 7.6.a) and formal means (see Handout 7.6.b).

- Participants will infuse at least one formal and one informal activity that they are not already using into their instruction.
- Two of the partnerships will briefly present their working drafts to the rest of the group. One should focus on infusing informal ways of promoting the transfer of skills and knowledge across the academic and work settings and the other team should focus on formal means. Each team's informal presentation should take approximately five minutes.

Activity 7.7
Formative Evaluation

Format: Individual

Procedure

- Through journal writing, the participants will reflect on their integration partnership's attempt to integrate academic and career-related education. They may wish to respond to the reflection prompt offered in Handout 7.7.

Activity 7.8
To Do

Format: Individual

Procedure

- Each participant should bring a copy of one of his or her course outlines to the next seminar.

Handout 7.1

Classroom Observation Discussion Questions

- What were some similarities between a class you teach and the one you observed? (Consider content, teaching style, student participation, type of homework, assessment format, and materials used.)
- What skills and knowledge did you find to be crucial to success in the class you observed?
- How can combining academic and career-related instruction improve student learning, based on your observations?

Handout 7.2
Industry Influence

The College

Sigma Community College (a pseudonym) is on the fringe of a large city in the Midwest. It served both rural and suburban students, 40% of whom were enrolled in occupational education programs. With an unemployment rate in the area of 2%, the job placement rate upon completion was 100%. All college credits were accepted for transfer at a four-year institution in an adjoining state.

Integration Model

Sigma Community College used a linked course model. For example, courses in manufacturing management and office technology were linked to academic courses such as speech, freshman composition, and sociology.

Impetus for Approach

The major purpose for linking the career-related and academic courses was to make general education more useful to students, in an attempt to overcome their reluctance to take academic courses.

The Instructor

The instructor, who was also a counselor, taught a course in marketing. She worked closely with various faculty members in the community college on various professional development projects and helped them connect with local industry. She was concerned with supporting students in transferring knowledge and skills between the academic and work settings.

Quote

"Business does not care what delivery method is used [in education] as long as we produce. They want good workers who are promotable. Some teachers are afraid that business [or other industries] is going to dictate how to teach, run the institution."

Guiding Questions

- What should the role of community colleges be in workforce preparation?
- What is the current relationship between business and your community college?
- Discuss the involvement of specific programs and industry advisory councils.
- How can the expectations that various industries place on students of community colleges be best addressed?

Handout 7.3.a

Legislation Relevant to Academic-Occupational Integration

Carl D. Perkins Vocational and Applied Technology Education Act of 1990

This act, which is also referred to as Perkins II, promotes the integration of academic and career-related education to meet both broad and specific career goals, especially for economically and educationally disadvantaged students, by providing necessary funds to local and state districts. Under this act, such programs as Tech-Prep and School-to-Work are funded to integrate academic and career-related education while creating a transition from secondary to postsecondary schools. One of the purposes of this legislation is to increase the transfer of knowledge and skills between the classroom and work settings.

Tech-Prep Education Act of 1990

This Act, which is the Title IIE of Perkins II, aims to integrate career and academic education to promote the transition from secondary to postsecondary institutions. Although it links community colleges to high schools for the purpose of integrating general and career-related education, it appears that in most cases, community college instructors serve more as consultants in clarifying the demands of postsecondary education, leaving secondary schools to adapt their curricula to meet the needs of the community colleges. The focus is on offering high school students an education that has relevance to their career goals while addressing the demands of industries for higher-order skills such as SCANS (1991) competencies. Tech-Prep stresses high academic standards, technical preparation, integrated secondary and postsecondary training, and smoother transition from the classroom to the workplace by focusing on both academic and technical skills and knowledge. Another focus of the legislation is professional development for both secondary and postsecondary personnel.

Secretary's Commission on Achieving Necessary Skills (SCANS) Report of 1991

This report attempted to address the changing needs of the global economy and how these affect the skills and knowledge required of today's workforce. With its five competencies and three foundation skills, the SCANS competencies, as they have come to be known, address the need for workers to have greater competence in academic skills including reading, writing, mathematics, decision-making, problem-solving, and knowing-how-to-learn skills. These skills are held to be valuable to students in both academic and career-related disciplines and will also benefit those choosing to transfer to a four-year institution. (Ways to incorporate the SCANS competencies will be explored during Seminar 8).

School-to-Work Opportunities Act of 1994

Through partnerships between states, learning institutions, and industry, this act extends integration of academic and career-related education by connecting workplace experiences to classroom experiences, thus connecting abstract concepts to practical situations. The three core elements are (1) school-based learning, (2) work-based learning, and (3) connecting activities, all of which increase student exposure to "real" workplaces.

The first element, school-based learning, refers to classroom instruction which focuses on academic knowledge and skills, as well as on those skills defined by industry as being necessary for success within the workplace. Work-based learning, the second core element, provides students with such meaningful real-world learning experiences. The third element, connecting activities, bridge academic and professional experiences through courses that integrate classroom and on-the-job instruction.

Goals 2000: Educate America Act of 1994

This act provides eight national educational goals and academic and occupational standards, linking academic skills to employment. The goal is to increase postsecondary enrollment by targeting secondary learning institutions in meeting the educational needs of students going to postsecondary institutions. Although partnerships are not formed between secondary and postsecondary institutions, the latter provide guidance in better preparing students to meet the academic needs necessary for success in college.

Handout 7.3.b

Pros and Cons of Integration of Academic and Career-Related Education

Pros

- Integration is driven by SCANS competencies, as well as by academic and career-related standards.
- Integration serves the needs of the students in meeting the academic and industry standards necessary to succeed in both learning institutions and the workplace.
- Integration incorporates rigorous academic instruction with specialized career-related education, allowing students to link abstract knowledge and skills to practical contexts.
- Integration promotes student linking of knowledge between courses while encouraging the transfer of knowledge and skills from the classroom to the workplace and/or four-year institution.

Cons

- Integration is driven by industry standards.
- Integration serves the needs of industry and not of the students.
- Integration "waters down" academic curricula.
- Integration devalues AA, AS, and AAS degrees.
- Integration tracks students away from four-year institutions.
- Integration trains workers for low-level (narrowly-defined) employment.

Adapted from:

Brown, B. L. (1998). *Academic and vocational integration. Myths and realities* (Document No. CE-077-323). Washington, DC: Office of Educational Research and Improvement. [ERIC Document Reproduction Service No. ED 424 400]

Hughes, K. L. (September 27, 1998). *The what and how of work-based learning*. Presentation at The Second National Conference on Career Academies: Dallas. National Career Academy Coalition.

Because of its rigorous academic component, integration should be of equal benefit to those students choosing to enter the workforce, those choosing to continue their studies in a four-year institution, and those already working but looking to enter a different field or advance in their present careers.

Because integration focuses on more than narrowly defined academics and/or career-related education and combines the two while fostering critical thinking skills, students should have greater options in and control over their chosen careers.

Handout 7.3.c

Legislation Relevant to Academic-Occupational Integration: Guiding Questions

- In what ways does the legislation discussed affect the integration efforts in community colleges?
- How does it meet the needs of students and industry?
- Which of its aspects are directly applicable to your college?
- What are the benefits and challenges of incorporating the School-to-Work core elements?
- In what ways could this college provide guidance to the local secondary schools to better prepare incoming students for the demands of a college education?
- What possible assignments would promote the application of abstract knowledge to practical situations? (Discuss use of workplace problems and materials, as well as worksite experiences.)

Handout 7.4

Skills for Career Success

Quotes from Business Instructors

> Advisory groups for the business programs say that job entrants need work ethic. They must be able to work both individually and in a group and assume appropriate responsibility. They must also have basic oral and written communication skills, have problem-solving abilities, and be able to think through a problem.
>
> Students need transferable skills. They need writing skills in order to use the Internet. Workplaces assume the task of training within a three- to six-month period. They want good attitude, ability to communicate, computer knowledge, and teamwork skills.

Guiding Questions

- What is your reaction to these comments?
- Do the comments apply to fields other than business?
- How do most of your students fare in the areas mentioned by the instructors?
- How can these skills be best developed while taking the least amount of time from other course content?
- What supports exist both within and outside the classroom to meet these needs?

Handout 7.5

Infused Student Assignment

Within their integration partnerships, have participants design at least one of the following three types of assignments, using career themes:

1. Students solve a problem that actually occurs at a workplace or in a specific industry.
2. Students use workplace materials, tools, or instruments to complete an assignment.
3. Students visit a workplace in order to complete a class assignment.

Handout 7.6.a

Informal Ways to Further Promote Transfer of Knowledge and Skills

- Using career-related themes as prompts for journals or reports
- Applying career lenses to critique literature
- Connecting literature to social, political, historical, and economic contexts
- Solving a real problem that arises in a business setting
- Using authentic materials to produce authentic workplace products
- Writing about ethical and legal issues arising in workplaces
- Researching organizational structure and writing a position paper on it
- Creating a Power Point presentation on a career-related situation
- Interviewing a career professional
- Listening to a presentation by industry representatives, focusing on skills and knowledge critical for success and advancement in the workplace

Handout 7.6.b

Formal Ways to Further Promote Transfer of Knowledge and Skills

Freshman Seminar with Occupational Links

At Kappa Community College (a pseudonym), a freshman seminar is customized for specific career programs, such as business and mechanical engineering. College entrants are oriented to the college and its resources, such as the library, computer center, academic skills center, tutoring programs, career services center, academic advisers, and so on. Next, the teamwork components of various programs are highlighted, focusing on interpersonal skills, consensus building, and problem solving. These and other areas are taught using examples from the career program to which the course is linked.

Work-Based Learning

At Sigma Community College, students obtain work experience in the industry that corresponds to their program, incorporating their work experiences in their assignments and class discussions.

Internships

At Gamma Community College, students may rotate among different positions within allied health settings, thus being exposed to the various facets of health care jobs. Again, they would incorporate those experiences into the class discussions and assignments.

Handout 7.7

Reflection Prompt: Collaboration For Integration

- Comment on the collaboration process during this session. Consider your role, involvement, interests, successes, and challenges. Comment on materials you have generated. Consider the possibility of future use, applicability to your course, as well as any ideas you may have for improvement. Comment on any concerns regarding the collaboration process and your attempts at integrating academic and career-related education and suggestions, ideas, and actions you think should be taken (e.g., feedback you could offer the Seminar Leader regarding a specific issue).

Professional Development Seminar 8:
Professional Communication Skills for Students

Plan for Seminar 8

Activity	*Content*	*Participant Configuration*
8.1	Orientation	Whole Group
8.2	Adaptation	Integration Partnerships
8.3	Survey	Self-Selected Groups
8.4	Discussion	Whole Group
8.5	Application	Integration Partnerships
8.6	Designing Materials	Whole Group
8.7	Case Study	Whole Group
8.8	Presentation	Whole Group
8.9	Formative Evaluation	Individual
8.10	To Do	Individual

Purpose

The purpose is to continue to develop strategies for integrating instruction and to identify employability skills (see Appendix B) in course outlines. The participants will discuss the benefits of professional written communication skills (job-related reading, writing, math, and critical thinking skills) in the context of career-related education. Then, using an Employability Skills Chart developed at Guilford Technical Community College, Jamestown, North Carolina (see Appendix B), they will review their course outlines looking for instances in which these skills are addressed. This activity is followed by a presentation by representatives of the college academic support center (if applicable). The integration partnerships will alter their curricula to incorporate one or more employability skills (see Appendix B) where they feel it is appropriate.

Use of Time

This seminar is divided into three segments. The Seminar Leader should decide whether to use all of them and how much time to allocate to each.

- During the first segment (Activities 8.1-8.4), the participants will discuss issues related to teaching professional communication skills in various discipline courses.

They will then discuss the benefits of utilizing the college's learning center, where applicable. Finally, they will explore various journals for the purpose of teaching both professional communication and critical thinking skills.

- During the second segment (Activities 8.5 and 8.6), the participants will locate specific employability skills (see Appendix B) they are already teaching in their courses. A representative of the college academic support center will then make a presentation.
- During the last segment (Activities 8.7-8.10), the collaborative teams will modify their syllabi to include specific professional communication skills.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Teaching professional communication skills is not necessarily the same as remediation. Many students may be learning these for the first time.
- Professional communication skills may be general or context-specific.
- College academic support centers may play an important role in helping students improve career-related written communication skills.

Activity 8.1
Orientation: Does Integrated Instruction Lower Academic Standards?

Format: Whole Group

Procedure

- Have participants work in their integration partnerships.
- Begin by providing the case material (see Handout 8.1.a).
- Using the guiding questions provided in the same handout, lead the group in a discussion of how the need for basic academic skills can be met in subject-matter classrooms. Repeat these steps with Handout 8.1.b.

Activity 8.2
Adaptation: Using Student Journals To Support Academic and Career-Related Integration

Format: Integration Partnerships

Procedure

- The Seminar Leader will give a brief overview of various journal models, which provide students with informal opportunities to analyze, write, and reflect in writing.
- Distribute Handout 8.2. Using the guiding questions, participants will discuss the potential benefits and pitfalls of having students keep such journals, with regard to developing written communication and critical thinking abilities.

Activity 8.3
Survey: Impact of Direct Instruction

Format: Self-Selected Groups

Procedure

- Have participants form self-selected groups of three to five persons.
- Distribute Handout 8.3. Using the guiding questions, have the groups discuss which of the skills their students should be explicitly taught. Have them consider

those students who are planning to transfer to a four-year institution, those who are preparing to enter the workforce, and those who are already working but wishing either to advance in present careers or change careers.

- Have the participants discuss how these skills can be taught while minimizing the amount of time taken from content instruction. Ask them to consider both in-class instruction as well as using various resource centers. The use of journals should also be considered.

Activity 8.4
Discussion: Basic Skills Platform

Format: Whole Group

Procedure

- Read the excerpt from field notes (see Handout 8.4).
- Lead a discussion using the guiding questions.

Activity 8.5
Application: Targeting Employability Skills

Format: Integration Partnerships

Procedure

- Have participants work with their integration partners.
- Provide a brief overview of the Employability Skills Chart (see Appendix B), its major categories, and examples of skills related to each category.
- Ask the faculty pairs to identify several employability skills on the chart in their course outlines. Using the guiding questions in Handout 8.5, have participants determine whether additional employability skills (see Appendix B) could be taught in their courses.

Activity 8.6

Designing Materials: Linking Course Materials to SCANS Competencies

Format: Whole Group

Procedure

- Introduce SCANS Competencies by giving each participant a copy of Handout 8.6.
- Engage the participants in a discussion of the benefits of infusing these competencies in various courses.
- Participants will adapt an existing assignment or create a new assignment, making links to specific SCANS competencies.

Activity 8.7

Case Study: Applied Academics or Infusion

Format: Whole Group

Procedure

- Read the excerpt from field notes (see Handout 8.7).
- Using the guiding questions, lead a discussion of challenges many students face in applied academic courses, the potential benefits and pitfalls of infusing the SCANS competencies in both the academic and career-related courses, as well as the need for the competencies to be made explicit in both the syllabi and assignments.

Activity 8.8

Presentation: Academic Resource Centers

Format: Whole Group

Procedure

- A presentation will be made by faculty or staff from the college's academic support center or computer lab.
- Information will be provided about support mechanisms already available in the college.

Activity 8.9
Formative Evaluation

Format: Individual

Procedure

- Ask participants to answer the questions in Handout 8.9 and return it to you. Allow five minutes for this activity.

Activity 8.10
To Do

Format: Individual

Procedure

- Participants will choose a website pertaining to one of the following topics: community colleges, academic-occupational integration, their own discipline or that of the instructor with whom they are collaborating, or workforce preparation (see Handout 8.10.a).
- Before Seminar 10, they should visit the website and assess its usefulness as a resource for academic and career-related integration.
- At the beginning of Seminar 10, each participant will be asked to give a brief presentation on their chosen website (see Handout 8.10.b).

Handout 8.1.a

Are Academic Standards Lowered by Integrating Academic and Career-Related Instruction?

The College

Tau Community College (a pseudonym) is situated in the suburb of a large city in the south-central U.S. The 29,000-strong student population is becoming more diverse, with increasing numbers of recent immigrants whose primary language is not English. The college has 20 occupational programs, both associate's level and certificate and diploma programs that do not transfer to the associate's degree level. Technically, students aiming for associate's degrees are not permitted to enroll in college-credit classes until they have completed any developmental education requirements, but the college has difficulty stopping them, and many "slip through," taking remedial and content courses simultaneously. The college president cited success in foundation courses as critical for student retention. He indicated that half "scrape by" with a C or above, while a quarter earn a D or F, and another quarter withdraw.

Integration Model

The college has no formal integration in place, but the developmental faculty play a quiet but important role in providing support to several programs, such as EMT and automotive certificate programs, working in the content classrooms to teach study skills.

The Instructor

The instructor teaches a developmental writing course.

Excerpt from Field Notes (Perin, in preparation for current manual)

The instructor felt that freshmen students who are first generation college attendees don't see the similarities in summarizing tasks in different settings. She thought that nondevelopmental faculty were not able to understand college freshmen very well. Faculty who went to elite institutions and came from middle class, college-going families simply don't understand that it's possible for a student not to know what college work entails. Psychology faculty require students to cite references in particular format and can't understand difficulties that first-generation students have in grasping this. College demographics have changed. The instructor referred to "the challenge" in terms of the question: "Are we lowering standards if we stop the class to teach how to cite a reference? . . . Most teachers don't have the educational background—they have the content but they want to be better teachers."

Guiding Questions

- Are we lowering standards in a subject matter class if we stop the class to teach basic skills such as how to cite a reference?
- Where else may students learn such skills?

Handout 8.1.b

Meeting Student Needs Through Career-Related and Academic Integration

The College

Kappa Community College (a pseudonym) is part of a large state university system in the northeast. It is located in an economically depressed rural area. Its student body is largely homogeneous, mostly Caucasians with English as their primary language. Of the 3,000 full- and part-time students, at least half are returning adults.

Integration Model

The college is not integrating instruction in a formal way although some individual occupational faculty have taken it upon themselves to address students' need for academic skills. Further, faculty from the college's academic writing center visit classrooms to help students with academic tasks.

The Instructor

The instructor teaches in the English Department and is a reading specialist who has been at the college for over eight years. She teaches several courses and frequently makes presentations in subject-matter classrooms about academic support services that are available. During these presentations, she models reading comprehension processes and metacognitive strategies. She also visits classrooms, such as those in the Business program, where she helps students write stock market reports.

Guiding Questions

- What roles do the academic support center (if there is one) and computer lab play at your college?
- To what extent do you encourage your students to make use of them?
- What role would you like to see such support centers adopt in the future?

Handout 8.2
Academic Journals and Integration

Double-Entry Journal (Dialectic Journal)

- Divide pages into two vertical columns.
- Write author's main points in left column.
- Include quotes and examples if desired.
- Write your thoughts in the right column.
- Discuss examples of your own—what you feel the strengths of the argument are, what the weaknesses are, questions raised, and so on.
- Analyze, question, interpret, summarize, and relate to other contexts and knowledge.
- Think as both a student and a professional in your field of interest.

Triple-Entry Journal

- Divide pages into three vertical columns.
- Write author's main points in the left column.
- Write your reactions in the middle column.
- Leave the third column blank for instructor's or partner's comments.
- The third column could also be used to relate the information to context-specific situations (i.e., the workplace), merging the abstract with the personal and then the practical.

Reaction-Reflection Journal

- Divide pages into two vertical columns.
- As you are reading, write your immediate reactions in the left column.
- Later, reflect on your reactions, trying to understand your thought processes.
- Write your reflections in the right column.

Academic Journal

- At the end of class, write your personal reactions to the discussions and activities.
- Make notes about ideas, theories, concepts, and/or problems.
- Argue with the readings and/or discussions.
- Express confusion.

- Explore possible approaches to problems in the course.
- This approach could also be used during work shadowing, internships, and observations.

Reading Journal

- Write about what you read.
- Express your personal opinions or reflections.
- Record your questions.
- Make associations.
- Write a 100- to 150-word summary, focusing on the main ideas or major events.
- Choose two quotes that have particular interest or significance to you.
- Copy the quote verbatim in one column using quotation marks and references.
- In the other column, write your response to the quote.

Using Academic Journals for Integration: Guiding Questions

- Do your students keep a journal as part of any course you teach? If so, describe the purpose and benefits.
- Choose two or three journal models, and discuss their value in helping students learn course content and improve writing and critical thinking skills.
- Do you see any disadvantages of using student journals in your courses?
- Do you think journal writing is equally useful in career-related and academic classrooms?

Handout 8.3

Professional Communication: Direct Instruction

How can the following skills and strategies be taught directly?

- Orientation/familiarity to various college resources such as library, computer lab, reading and writing center, Internet access, career services, mentoring programs, internships
- Study skills such as outlining and note-taking, organization, test-taking, time-management
- Research methods such as library and Internet searches, locating information in the community, observation and interviewing skills
- Team strategies such as consensus building, problem-solving
- Transfer of knowledge from school to work contexts such as applicability of skills, explicit links, authentic projects
- Knowledge of technical aspects of communication such as revising, editing, choosing appropriate format, use of proper terms/jargon
- Support such as academic tutor, resource center, professional mentor, study groups
- Job search strategies such as writing a résumé, practicing interviewing skills, and writing thank you letters
- Presentation skills such as visual aids, diction, eye contact
- Networking strategies (both personal and professional avenues, career services, fairs)
- Knowledge of work culture (organizational schema, leadership styles, ethics, norms)

Direct Instruction: Guiding Questions

- Which written communication skills do your students need to learn?
- How can these skills be taught while taking as little time away from course content as possible? (Consider in-class direct instruction, use of various resource centers, as well as use of journals.)
- Do you see a role for journal writing in linked, infused occupational, or infused academic courses?

Handout 8.4

Basic Skills Platform

Quote

> The students need a good basic skills platform and need to keep on learning, not just for credentials. They will be learning all their lives, if they want a career. They need to be open to doing new things, going to new places. They need to understand diversity, deal with different kinds of people, carry skills to wherever they may be working productively, and they need teamwork and problem-solving skills. (Vice President of Instruction and Learning Services, Epsilon Community College)

Guiding Questions

- To what extent do your students have the skills mentioned?
- To what extent are you teaching any of them?

Handout 8.5

Targeting Employability Skills: Guiding Questions

- Which major categories do you currently teach in your course? (e.g., teamwork and communication, or problem-solving and information processing)
- Which specific skills are you teaching? (The group presentation explicitly specifies A-1, A-5, A-11, B-7, B-9, C.1.I from Appendix B.)
- Which other major categories lend themselves to your course content?
- Which other specific skills could be taught within your existing course outline and assignments?
- In your opinion, would students benefit from having the course content linked systematically to specific employability skills? If so, why?

Handout 8.6
The SCANS Competencies

Resources

Identifies, organizes, plans, and allocates resources.

- *Time*: selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules.
- *Money*: uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives.
- *Material and facilities*: acquires, stores, allocates, and uses materials and space efficiently.
- *Human resources*: assesses skills and distributes work accordingly, evaluates performance, and provides feedback.

Interpersonal

Works with others.

- *Participates as member of a team*: contributes to group effort.
- *Teaches others new skills*
- *Serves clients and customers*: works to satisfy customers' expectations.
- *Exercises leadership*: communicates ideas to justify position, persuades and convinces others, and responsibly challenges existing procedures and policies.
- *Negotiates*: works toward agreements involving exchange of resources, and resolves divergent interest.
- *Works with diversity*: works well with men and women from diverse backgrounds.

Information

Acquires and uses information.

- Acquires and evaluates information.
- Organizes and maintains information.
- Interprets and communicates information.
- Uses computers to process information.

Systems

Understands complex inter-relationships.

- *Understands systems*: knows how social, organizational, and technological systems work and operates effectively with them.
- *Monitors and corrects performance*: distinguishes trends, predicts impacts on system operations, diagnoses deviations in systems' performance, and corrects malfunctions.
- *Improves or designs systems*: suggests modifications to existing systems and develops new or alternative systems to improve performance.

Technology

Works with a variety of technologies.

- *Selects technology*: chooses procedures, tools, or equipment including computers and related technologies.
- *Applies technology task*: understands overall intent and proper procedures for setup and operation of equipment.
- *Maintains and troubleshoots equipment*: prevents, identifies, or solves problems with equipment, including computers and other technologies.

Making Links: Guiding Questions

- Do you see the SCANS competencies as applicable to your teaching?
- What might be some challenges of incorporating these competencies into your coursework?

Source: Secretary's Commission on Achieving Necessary Skills (SCANS) (1991, June).

Handout 8.7

Academic Instruction and Infused SCANS Competencies

Quote

> The students don't feel comfortable. Most have not been successful academically and don't trust the academic setting. Occupational education has a concentration of students who have not done well before . . . The students may get turned off if they take applied academics right away. They are more interested in technical training. They may drop out. [Students are more motivated to learn in an integrated course] if they buy into the idea that they have to be more responsible. (Associate Dean for Business, Epsilon Community College)

Guiding Questions

- Do these statements apply to your students?
- How can students, especially in the beginning of their programs, be eased into the academic courses?
- What are your thoughts on "front-loading" academic courses?
- To what extent can infusing SCANS competencies meet the academic and career-related education needs of the students?

Handout 8.9

Reflection Prompts: Collaboration for Integration

Formative Evaluation (anonymous)

- What are your general reactions to this session?
- Name one concept or practice that you found helpful.
- Do we need to change anything in future sessions (content, pacing, other)?

Please return to seminar leader.

Handout 8.10.a

Websites Relevant to Academic and Career-Related Integration

Websites

Academic Innovations	www.academicinnovations.com
Academic Systems Corporation	www.academic.com
American Association of Community Colleges	www.aacc.nche.edu
American Association of Colleges of Nursing	www.aacn.nche.edu
American Educational Researcher Association	www.aera.net
American Society for Engineering Education	www.asee.org
American Society for Training and Development	www.astd.org
Association for Career and Technical Education	www.acteonline.org
Business Coalition for Education Reform	www.bcer.org
Career Academy Support Network	casn.berkeley.edu
Center for Occupational Research and Development	www.cord.org
Center for Research on Education and Work	www-gse.berkeley.edu/research/crew
Center on Education and Work	www.cew.wisc.edu/cew
Center on Skills, Knowledge, and Organizational Performance	www.economics.ox.ac.uk/SKOPE/GLOSSY.htm
Community College Research Center	www.tc.columbia.edu/~iee/ccrc
Community College Web	www.mcli.dist.maricopa.edu/cc
Educators' Guide to School Reform	www.aasa.org/reform/index.htm
Institute for Research on Higher Education	www.irhe.upenn.edu
Institute for Women in Trades, Technology, and Science	www.iwitts.com
Institute on Education and the Economy	www.tc.columbia.edu/~iee
International Technology Education Association	www.iteawww.org
Jobs for the Future	www.jff.org
League for Innovation in the Community College	www.league.org
Major Vocational Education Legislation	vocserve.berkeley.edu/LegislationLinks.html
National Alliance of Community and Technical Colleges	admin1.athens.tec.ga.us/nactc.html
National Center for Educational Statistics	nces.ed.gov
National Center for Postsecondary School Improvement	www.stanford.edu/group/ncpi/index.shtml
National Center for Research in Vocational Education	vocserve.berkeley.edu
National Center for the Study of Adult Learning and Literacy	gseweb.harvard.edu/~ncsall
National Council for Occupational Education	www.NCOEonline.org

Websites (cont.)

National Initiative for Leadership and Institutional Effectiveness	www2.ncsu.edu/ncsu/cep/acce/nilie
National Postsecondary Education Cooperative	nces.ed.gov/NPEC
National Skills Standards Board	www.nssb.org
National Staff Development	www.nsdc.org
National Business Education Association Standards	www.nbea.org/curriculum/bes.html
Occupational Information Network	www.doleta.gov/programs/onet
Occupational Outlook Handbook	stats.bls.gov/ocohome.htm
Office of Community College Research and Leadership	bragg.ed.uiuc.edu/occrl
SCANS/2000: Workforce Skills Website	www.scans.jhu.edu
SCANS Link	www.dcccd.edu/nlc/misc/scans/slink.htm
School-to-Work	www.stw.ed.gov
School-to-Work Outreach Project	www.ici.coled.umn.edu/schooltowork
Skills Net	www.skillsnet.org
Workforce Preparation and Continuing Education	www.nysed.gov/workforce/work.html

Electronic Journals

Computer Law Review and Technology Journal	www.smu.edu/~csr
Journal of Industrial Teacher Education	scholar.lib.vt.edu/ejournals/JITE/jite.html
Journal of Computer Science	mjcs.fsktm.um.edu.my
Journal of Technology Education	scholar.lib.vt.edu/ejournals/JTE/jte.html
Journal for Vocational Special Needs Education	www.cew.wisc.edu/jvsne
Journal of Vocational and Technical Education	scholar.lib.vt.edu/ejournals/JVTE
Teaching in Community Colleges Journal	leahi.kcc.hawaii.edu//pub/tcc-j

Handout 8.10.b

Guidelines for Presenting Information on Websites

- What is the name and web address of the site?
- What information is available through this website?
- What content on this website could I use in my class?
- Are there any interesting links? (Provide names and web addresses.)

Professional Development Seminar 9:
Ongoing Support for Integrated Instruction

Plan for Seminar 9

Activity	*Content*	*Participant Configuration*
9.1	Presentations	Whole Group
9.2	Orientation	Whole Group
9.3	Exploration	Whole Group
9.4	Survey	Individual
9.5	Planning	Integration Partnerships
9.6	Formative Evaluation	Individual
9.7	To Do	Individual

Purpose

The purpose is to determine sources of support for the integration of academic and career-related instruction. The participants will give brief presentations on websites pertaining to academic-occupational integration in community colleges. Then, they will discuss various sources of support, both formal and informal, for integrated instruction at the college and externally. Finally, they will develop a realistic plan for obtaining support.

Use of Time

This seminar is divided into three segments. The Seminar Leader should decide whether to use all of them and how much time to allocate to each.

- During the first segment (Activity 9.1), participants will present on the websites they researched.
- During the second segment (Activity 9.2-9.4), they will explore various sources of support for faculty when integrating instruction.
- During the third segment (Activity 9.5), they will create a plan to obtain support and dialogue among faculty in various disciplines and at various colleges.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concepts need to be addressed:

- Faculty collaboration for the purpose of integrating academic and career-related education is a work-in-progress that usually needs to be supported by the college administration in some way.
- As participants have already realized, integrated instruction requires considerable amounts of time, resources, creativity, and dedication. Practitioners of this approach emphasize that the effects are worth the effort.

Activity 9.1

Presentations: Academic and Career-Related Websites

Format: Whole Group

Procedure

- Invite participants to share information about the website they researched (Activity 8.10).
- As noted in Handout 8.10.b, the participants will focus their attention on the contents of the site, its strengths, aspects of particular interest, and interesting links.

Activity 9.2

Orientation: Creating Ongoing Faculty Dialogue

Format: Whole Group

Procedure

- Distribute Handout 9.2.
- Using the guiding questions, lead a discussion of how faculty can maintain ongoing dialogues in their own college context.

Activity 9.3

Exploration: Degrees of Support

Format: Whole Group

Procedure

- The Seminar Leader will discuss various resources for providing continuing support to faculty, attempting to integrate academic and career-related education (Handout 9.3). Faculty present may know of other resources that can be added.
- Using the guiding questions, the various approaches should be considered in the context of the plans for integrated instruction that are being developed in this seminar.

Activity 9.4

Survey: Participating in Ongoing Dialogue About Integration

Format: Individual

Procedure

- Have participants complete the questionnaire in Handout 9.4, adding any comments, suggestions, or questions they may have. The information gathered from these questionnaires could be used in deciding which modes of support would be most beneficial.
- Through brief, informal presentations, participants will discuss ideas that were not originally included in the questionnaire but which they feel would help create and sustain ongoing faculty dialogue and provide continuing support for the integration of academic and career-related education.

Activity 9.5

Planning for Ongoing Support for Integration

Format: Integration Partnerships

Procedure

- Participants will work in their integration partnerships.
- The pairs will choose at least three sources of ongoing support that they will use in writing a plan or proposal to obtain institutional or external support for the integration of academic and career-related education (see Handout 9.5).
- The rationale for this plan or proposal is that the support mechanisms will provide opportunities for ongoing faculty dialogue. Relationships will also be encouraged with faculty at other colleges around the nation, to create a network of support and guidance.

Activity 9.6
Formative Evaluation

Format: Individual

Procedure

- Through journal writing, the participants will reflect on their integration partnership's attempt to integrate academic and career-related education. They may wish to respond to the reflection prompt offered in Handout 9.6.

Activity 9.7
To Do

Format: Individual

Procedure

For Seminar 10, participants will bring all the course work they have modified or generated (see Handout 9.7 for a list of items they may have completed). They will use these in writing proposals for support of integrated instruction.

Handout 9.2

Challenges to Ongoing Dialogue

Quote

> The college used to be smaller. You ran into each other every day, and got to know everyone. We'd meet and we'd talk. If we didn't have those relationships, I don't know how it would work out. The college has grown and now we're spread out and work in cubicles. We'd have to seek each other out now. You just don't run into people anymore. (science instructor, Phi Community College)

Guiding Questions

- How important is physical proximity of offices and departments to maintaining an ongoing collaboration between faculty?
- Is your experience at the college one mainly of working alone or of working closely with others?
- Do you feel that a personal relationship is necessary as the basis of collaborating to integrate instruction?
- What could be done to cultivate closer working relationships within and across the departments?
- How does the use of electronic mail facilitate interaction among faculty in your institution?

Handout 9.3

Degrees of Ongoing Support for Integration

Informal, Low-Contact Support Resources

- E-mail
- Telephone
- Websites
- Listserves
- Electronic bulletin boards
- Newsletters

Informal, High-Contact Support Resources

- Refresher meetings
- Demonstrations
- Team teaching
- Advanced training
- Afternoon retreats
- Brown-bag lunches
- Critical-thinking sessions
- Curriculum planning days
- Professional development committees
- Regular professional development seminars

Formal, High-Contact Support Resources

- Videotaping classes (for self-analysis or coaching)
- Observations with feedback
- Advanced training
- Action research
- Presenting at national or regional conferences
- Publishing

Degrees of Support: Guiding Questions

- Case studies have indicated that it is valuable for faculty involved in academic and career-related instruction to present at statewide or national conferences. Not only are their own innovations communicated to the outside world, but by attending professional conferences, faculty gain important knowledge and contacts. If you were planning a conference presentation, how would it be done? Name a state or national organization at whose annual conference you could present. Create an outline for a panel presentation, and discuss how you would obtain the financial support needed for conference registration and travel.

- Select another resource that seems particularly useful. In what capacity would this resource provide continuing support to faculty attempting to integrate academic and career-related education?
- What are its strengths? (time, location, flexibility, nature of feedback, immediacy, relevance, and/or needs addressed)
- Are there any pitfalls?
- How could it be implemented? (where, when, and why)
- Would you engage in this activity (use this resource)? Why or why not?

Handout 9.4
Questionnaire: Joining in the Integration Dialogue

Name ______________________________ Date ______________

Department ______________________________

I am interested in . . .

____ receiving monthly newsletters.
____ receiving quarterly newsletters.
____ writing a 300-word article on my experiences with integration for the newsletter.
____ writing a 300-word article on my experiences with collaboration for the newsletter.
____ visiting a college website dealing with integration.
____ visiting a college website dealing with collaboration.
____ taking an active role in the designing of the website.
____ taking an active role in the periodical updating of the website.
____ sharing via an electronic bulletin board.
____ attending brown-bag lunches every ______________.
____ sharing at a brown-bag lunch.
____ attending refresher meetings every ______________.
____ planning a refresher meeting.
____ attending afternoon retreats every ______________.
____ planning an afternoon retreat.
____ having curriculum planning days every ______________.
____ being a member of a professional development committee.
____ attending professional development seminars every ______________.
____ having other faculty observe my class.
____ having other faculty observe my class and offer feedback.
____ observing other faculty members' classes.
____ observing other faculty members' classes and offering feedback.
____ coteaching.
____ receiving advanced training.
____ conducting action research.
____ attending national conferences.
____ attending regional conferences.
____ presenting at national conferences.
____ presenting at regional conferences.
____ publishing.
____ other ______________________________.

Handout 9.5

Ongoing Support for Integration: Format

Relevance: What needs are being addressed?

Resources: What resources are necessary? (materials, equipment, time, skills)

Support: What support is needed from the college? How can this be obtained?

Variety: Do the various resources address a variety of needs and formats?

Frequency: How often would (could) the faculty engage in these activities?

Location: Where will they take place? (presentations, staff development)

Leadership: Who will be responsible for their planning and implementation?

Flexibility: Do they offer the faculty choices?

Handout 9.6

Reflection Prompt: Collaboration For Integration

Comment on the collaboration process during this session. Consider your role, involvement, interests, successes, and challenges. Comment on materials you have generated. Consider the possibility of future use, applicability to your course, and any ideas you may have for improvement. Comment on any concerns regarding the collaboration process and your attempts at integrating academic and career-related education and suggestions, ideas, and actions you think should be taken (e.g., feedback you could offer the Seminar Leader regarding a specific issue).

Handout 9.7
Modified Course Work

Please bring all the course work you have modified or generated in this professional development seminar to date. These will guide you in writing a proposal in Seminar 10. Below is a list of items you may have produced to date. You may also want to bring the reflection journal you've been keeping all along, as your comments may remind you of various issues.

From Seminar 1

Activity 1.5	Integration plan
Activity 1.7	Worksite visits

From Seminar 2

Activity 2.3	Benefits and pitfalls of integration chart
Activity 2.4	Action plan
Activity 2.5	Invitation letter

From Seminar 4

Activity 4.3	Interview guide
Activity 4.5	Aligned course outlines

From Seminar 6

Activity 6.4	Adapted interview questions
	Adapted observation guides
Activity 6.5	Ranked communication preferences

From Seminar 7

Activity 7.5	Integrated student assignment
Activity 7.6	Infused student assignment

From Seminar 8

Activity 8.3	Professional communication checklist
Activity 8.5	Course outline with employability skills
Activity 8.6	Adapted assignment with SCANS skills
Activity 8.10	Professional websites

From Seminar 9

Activity 9.4	Questionnaire
Activity 9.5	Plan for ongoing faculty support

Professional Development Seminar 10:
Implementation and Evaluation of Integrated Instruction

Plan for Seminar 10

Activity	*Content*	*Participant Configuration*
10.1	Exploration	Whole Group
10.2	Adaptation	Integration Partnerships
10.3	Proposal	Integration Partnerships
10.4	Presentation	Whole Group
10.5	Formative Evaluation	Individual

Purpose

The purpose is to build familiarity with methods of evaluating the success of integration and to write a proposal to integrate academic and career-related education. The participants will explore various ways of assessing attempts at integrating academic and career-related education. Then, they will use the materials generated during previous seminars to write a formal proposal to implement integration.

Use of Time

This seminar is divided into two segments. The Seminar Leader should decide whether to use both of them and how much time to allocate to each.

- During the first segment, the participants will explore the potential benefits and drawbacks of various evaluation methods.
- During the second segment, the participants will write a proposal, which they will present briefly to the rest of the group during the last hour. At the very end, the participants will evaluate the professional development process in general.

Key Concepts

Although we recommend that the Seminar Leader adapt the activities of this seminar to maximize their applicability to local needs and expectations, the following key concept needs to be addressed:

- Conducting evaluation throughout the integration process is important.

Activity 10.1

Exploration of Success of Academic and Career-Related Integration

Format: Whole Group

Procedure

- Participants will discuss the rationale for evaluating the effects of integrating academic and career-related education throughout the implementation process. This part of the discussion will be focused on why evaluation is important, when it should be done, and how.
- Using the guiding questions (see Handout 10.1), lead a discussion of the various modes of evaluation.

Activity 10.2

Adaptation: Videotape Evaluations of Integration

Format: Integration Partnerships

Procedure

- Participants will work in their integration partnerships to discuss ways of using videotapes for self-evaluation (see Handout 10.2). The pairs will briefly discuss potential benefits and pitfalls of each, considering such factors as faculty resistance, student resistance, time, and cost. In particular, the faculty should discuss how videotaping can help determine points of intersection between academic and career-related course work.

Activity 10.3

Proposal To Integrate Instruction

Format: Integration Partnerships

Procedure

- Since institutional or external support is critical for integrating academic and career-related instruction, this activity is very important. The participants write proposals to obtain support from the college, a state or federal agency, or private foundation, to integrate instruction. State that the proposal could include every section shown in the outline in Handout 10.3 or only specific sections, depending on their purpose. For example, applying for external funding would require a proposal with more background information and detailed rationale (i.e., the introductory section of the outline), but applying for stipends from their own college may only require Sections 2 and 3 of the outline.

- Using the outline in Handout 10.3, ask each integration partnership to write a proposal appropriate to their purpose.

Activity 10.4
Presentation of Integration Proposal

Format: Whole Group

Procedure

- Invite each partnership to give a brief presentation of their proposal, with feedback from the other participants.

Activity 10.5
Formative Evaluation

Format: Individual

Procedure

- Ask each seminar participant to complete an evaluation of the professional development series in Handout 10.5 on an anonymous basis.

Handout 10.1

Is Integrated Instruction Successful? Guiding Questions

General Reactions

- What forms of evaluation have you found useful to your instruction in the past? (student feedback, grades, classroom performance, retention, and/or industry feedback)
- Could these approaches be applied to integrated instruction? Would any new modes of evaluation be necessary? Ideally, how would you recommend that your newly integrated course be evaluated in order to show its success?

Modes of Evaluation

- Informal student feedback
- Exit interviews with students
- Change in grades and/or attendance
- Evaluation checklist by peer, self, or student to assess teaching for explicitness of linking academic and occupational themes
- Evidence that employability skills are being taught in the course
- Action research (e.g., videotapes to track change in the classroom)
- Feedback from industry (e.g., from clinical rotations and internships)
- Institutional research (e.g., college tracks student grades and retention)

Handout 10.2

Use of Videotapes to Evaluate Integration

Self-Analysis

- Videotape a lesson.
- Watch the videotape looking for evidence of infusion.
- In your journal, reflect on what you saw:
    - Amount of infused content
    - Relevance of infused content
    - Explicitness of instruction
    - Explicitness of link to work setting
    - Explicitness of link between courses and across disciplines
    - Approaches you would alter
    - Specific aspects that did or did not seem to work
    - Level of participation from students
    - Depth of comments
    - Evidence of transfer from students
    - Missed opportunities to link

Documenting Change Over Time

- Videotape yourself every six to eight weeks.
- Follow the same steps as above noting your growth over time. Again, focus on quantity of integration/links, explicitness of applicability and transferability to work setting, and depth of relevance of knowledge and skill to world outside community college.

Coaching

- Videotape a lesson.
- View the tape with your collaborative team members, integration partner, or coach.
- Discuss the strengths of the lesson in terms of quantity of integration, quality of relevance to work setting, and explicitness of applicability and transferability.
- Discuss missed opportunities for integration.
- Develop a plan to further infuse courses and align assignments.

Staff Development

- Have career-related faculty videotape one of their lessons (volunteers).
- View as a group, watching for evidence of direct instruction, explicit links, or infusion of academic skills.
- Have a faculty member in the academic department videotape their lesson.
- View as a group, watching for evidence of career-related themes and use of authentic materials or problems.
- Look for points of intersection between the two taped lessons.
- Brainstorm ways to further align the lessons and assignments.
- Discuss ways to assess across the disciplines.

Resources

- What would be needed for videotape evaluations? (Consider time, equipment, agreement, and purpose.)

Handout 10.3

Integrating Instruction: Proposal Outline

Section 1: Overview

- Purpose of integration (Specify the type of integration that will be used: course linking, learning community, infused occupational, infused academic, or hybrid.)
- Rationale (e.g., challenges being faced in instruction that can be addressed through integrated instruction)
- Expected student outcomes
- Expected faculty outcomes (e.g., an integrated course which will be on file as a result of the collaboration so that others can use it in the future)
- Specific information about the two courses to be linked or the course that will be infused
- Timeline

Section 2: Resources

- Support needed from college
- Release-time
- Stipends
- Staff development
- Opportunities for on-going dialogue
- Travel accounts (site visits, attending/presenting at conferences)

Section 3: Sample Content

(select items that are applicable)

- Collaboration plan
- Example of aligned or infused unit (for linked or infused course)
- Application of integration model
- Application of professional communication skills
- Infused SCANS competencies
- Linked course outline with employability skills (see Appendix B)
- Instructional plans
- Assessment criteria
- Action research

Section 4: Product

- Will depend on size of grant or stipend received
- Revised course outline
- Four to five plans for instructional units
- Integrated curricula across two or more courses
- Infused curriculum for single courses

Handout 10.5

Evaluation of the Professional Development Seminars

Please answer the questions below. You are answering anonymously. Your responses will help us plan future professional development seminars. Thank you.

- As you review the activities in which you have participated over the course of seminars, which were most useful to you, and why where they useful?
- Should any of the activities have been omitted? If so, why?
- Which of your personal learning goals did the seminars meet?
- Which, if any, of your personal learning goals did the seminars fail to meet?
- What suggestions do you have for improving this professional development experience?

BIBLIOGRAPHY

Badway, N., & Grubb, W. N. (1997). *A sourcebook for reshaping the community college: Curriculum integration and the multiple domains of career preparation, Vol. I and II* (MDS-782). Berkeley: National Center for Research in Vocational Education, University of California, Berkeley.

Badway, N. (1998). Extent, quality and access for integrated curriculum in community colleges. *Journal of Vocational Education Research, 23*(2), 133-145.

Bloom, B. S. (1956). *Taxonomy of educational objectives.* New York: Longman.

Boaz, M., Elliott, B., Foshee, D., Hardy, D., Jarmon, C., & Olcott, D. (1999). *Teaching at a distance: A handbook for instructors.* Mission Viejo, CA: League for Innovation in the Community College, and Archipelago.

Bragg, D. D., Puckett, P. A., Reger IV, W., Thomas, H. S., Ortman, J., & Dornsife, C. (1997). *Tech Prep/School-to-work partnerships: More trends and challenges.* Berkeley: National Center for Research in Vocational Education, University of California, Berkeley.

Brewer, J. A. (1996). Integrating academic and vocational education: An investigation of the attitudes and curricular values of administrators and faculty in the Wisconsin Technical College System. *Journal of Vocational Education Research, 21*(1), 5-31.

Brown, B. L. (1998). *Academic and vocational integration. Myths and realities* (Report No. CE-077-323). Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED 424 400)

Darling-Hammond, L., & McLaughlin, M. W. (1995). Policies that support professional development in an era of reform. *Phi Delta Kappan* (April), 597-604.

Dougherty, K. (1994). *The contradictory college: The conflicting origins, impacts, and futures of the community college.* Albany: State University of New York Press.

Gabelnick, F., MacGregor, J., Matthews, R. S., & Smith, B. L. (1990). *Learning communities: Creating connections among students, faculty, and disciplines.* New Directions for Teaching and Learning, 41. San Francisco: Jossey-Bass.

Greenan, J. P., Wu, M., Mustapha, R. B., & Neube, L. B. (1998). Attitudes and motivations of vocational teachers: Reading program improvement. *Journal of Industrial Teacher Education, 35*(3), 6-23.

Grubb, W. N. (1996). *Working in the middle: Strengthening education and the training for the mid-skilled labor force.* San Francisco: Jossey-Bass.

Grubb, W. N. & Associates. (1999). *Honored but invisible: An inside look at teaching in community colleges.* New York: Routledge.

Grubb, W. N., Badway, N., Bell, D., & Kraskouskas, E. (1996). *Community college innovations in workforce preparation: Curriculum integration and Tech-Prep.* Berkeley: University of California, School of Education. League for Innovation in the Community College, National Center for Research in Vocational Education, and National Council for Occupational Education.

Hicks, J. W. (1997). *The promise of community in professional development* (Report No. SP-037-566). (ERIC Reproduction Service No. ED 412 194)

Hill, P. (October 22, 1985). *The rationale for learning communities.* Speech given at the Inaugural Conference on Learning Communities of The Washington Center for Improving the Quality of Undergraduate Education.

Huberman, M. (1995). Professional careers and professional development: Some intersections. In T. Guskey & M. Huberman (Eds.), *Professional development in education: New paradigms and practices* (pp. 193-224). New York: Teachers College Press.

Hughes, K. L. (September 27, 1998). *The what and how of work-based learning.* Presentation at The Second National Conference on Career Academies: Dallas, TX. National Career Academy Coalition.

Illinois Task Force on Integration (1997). *Academic and occupational integration at the community college.* Urbana-Champaign: Office of Community College Research and Leadership, University of Illinois.

Johnson, D. W., & Johnson, R. T. (1986). *Learning together and alone* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.

Johnson, W. L., Randolph, J., Devilbiss, C., & Johnson, A. M. (1998). *Texas scholars: Successful partnerships and linkages.* (Report No. EA-029-388). Houston: Annual Meeting of the Texas Higher Education Coordinating Board Access and Equity Recruitment and Retention Conference. (ERIC Reproduction Service No. ED 424 625)

Kalash, B. (1999). *A reader's guide to college reading: A reader's handbook.* New York: McGraw-Hill.

Little, J. W. (1993). Teachers' professional development in a climate of educational reform. *Educational Evaluation and Policy Analysis, 15*, 129-151.

Little, J. W. (1995). What teachers learn in high school: Professional development and the redesign of vocational education. *Education and Urban Society, 27*(3), 274-293.

Lofton, G. G., Hill, F., & Claudet, J. G. (1997). Can state-mandated teacher evaluation fulfill the promise of school improvement? Events in the life of one school. *Journal of Personnel Education, 11*, 139-165.

McGrath, D., & Spear, M. B. (1991). *The academic crisis of the community college.* Albany, NY: SUNY Press

O'Banion, T. (1994). *Teaching and learning in the community college.* Washington, DC: American Association of Community Colleges.

Orr, M. T. (1998). *Community colleges and secondary schools: Collaborative efforts for School-to work reform.* New York: Community College Research Center, Teachers College, Columbia University.

Orr, M. T. (1998). Integrating secondary schools and community colleges through School-to-work transition and educational reform. *Journal of Vocational Education Reform*, *23*(2), 93-113.

Perin, D. (1998). *Curriculum and pedagogy to integrate occupational and academic instruction in the community college: Implications for faculty development*. CCRC Occasional Paper. New York: Community College Research Center, Institute on Education and the Economy, Teachers College, Columbia University.

Ramsey, K., Stasz, C., Ormseth, T., Eden, R., & Co, J. (1997). *Designing classrooms that work: Teacher training guide* (MDS-963). Berkeley: National Center for Research in Vocational Education, University of California, Berkeley.

Rosen, L. M., & Wright, M. E. (1986). *Supporting the process of change: It takes more than a workshop or two* (Report No. CS-210-186). (ERIC Reproduction Service No. ED 278 013)

Secretary's Commission on Achieving Necessary Skills (SCANS). (1991, June). *What work requires of schools: A SCANS report for America 2000*. Washington, DC: U.S. Department of Labor.

Scribner, J. P. (1999). Professional development: Untangling the influence of work context on teacher learning. *Educational Administration Quarterly*, *35*(2), 238-266.

Stasz, C. (1997, November). Designing classrooms that work: Conception and pilot study. (Technical report MDS-964). Berkeley: National Center for Research in Vocational Education, University of California, Berkeley.

Thomas, G., Wineburg, S., Grossman, P., Myhre, O., & Woolworth, S. (1998). In the company of colleagues: An interim report on the development of a community of teacher learners. *Teaching and Teacher Education*, *14*(1), 21-32.

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education*, *68*, 599-623.

Wise, V. L., Spiegel, A. N., & Bruning, R. H. (1999). Using teacher reflective practice to evaluate professional development in mathematics and science. *Journal of Teacher Education*, *50*(1), 42-49.

APPENDIX A

ACADEMIC-OCCUPATIONAL INTEGRATION IN COMMUNITY COLLEGES: CLASSROOM EXAMPLES FROM CASE STUDIES

Example 1. Linked Courses

Sigma Community College[3], located in urban fringe of a large Midwestern city
Mechanical Technology Program (AAS degree)
Courses: Materials of Industry and Composition I

Materials of Industry

The instructor is employed full-time in industry and has taught at Sigma Community College for many years because he enjoys it. He assigns written reports tailored to what is expected in industry. He finds that the students have better skills than other students because they are taking the composition course at the same time: "These students are stronger—they could write a report on test equipment they could order for their company." He also reinforces speech skills that the students have learned in the previous semester. The students are required to write a 1,000 word research report (20% of grade) and make a five-minute oral presentation on a material or group of materials. Written guidelines that he hands out stipulate that the report must contain a description of the material, origin/source of the material, chemical composition, how the material is made, its uses in industry, advantages and disadvantages, environmental impact (e.g., whether biodegradable or not), cost of material, and supplier information. The student must also submit an outline of the oral presentation.

Composition I

The purpose of the class session observed, which met on the same night as the linked Materials of Industry class, was to develop writing and research skills using books, magazines, and newspaper articles. These skills would be applied to the research project assigned in the Materials course. Most of the class time this evening was spent at the library. I observed the first part of the class, during which the teacher gave out an abstract and told the students how to cite sources. He described "parenthetical documentation," using the author's last name and page number. He referred to the textbook regarding citing sources. After explaining how to cite sources, the teacher gave a short lecture on plagiarism and led a discussion on this topic. Following this, the teacher talked about abstracts and handed out a sample of one. The students then left the room to go to the library for the remainder of the class time. They were scheduled for a tour and were asked to select resources for the Materials project.

---

[3] All college names are fictitious. The source of the descriptions is field work done for a study reported in Perin (1998), and additional field work for preparation of this manual.

Example 2. Infused Occupational

Gamma Community College, located in the urban fringe of a large northeastern city
Nursing Program (AAS degree)
Course: Comprehensive Nursing Care II

The session observed was devoted to topics in obstetrics including problems with labor, delivery, premature rupture of membranes, stressors for different conditions, and high-risk obstetrics. The instructor handed out assignments asking students to resolve a problem by formulating a nursing diagnosis (identify goal, identify and prioritize interventions). Students were to form groups, and different assignments were handed out to members of the different groups. For example, one of the sheets stated, "potential reproductive tract and fetal infection r/t portal of entry 2o PROM" (premature rupture of membrane), and the goal and interventions had to be filled in. After working independently for approximately ten minutes, the students met in groups for twenty minutes to discuss what they had written on their sheets and decide on the order of information. During the group discussion, they referred to previously taken notes. The instructor circulated among groups asking questions (e.g., "Is the woman at home or in the hospital?"; "Have you identified your priorities yet?").

A spokesperson from each group went to the board to write the group's material, and the rest of the class returned to the rows of chairs. The instructor then led a discussion based on what was written on the board, asking if students agreed or disagreed. Many were highly involved and attentive during this discussion, consulting their notes, offering answers, and asking questions. The instructor then gave a lecture, using overheads. One of the topics was hemorrhaging in pregnancy. The instructor asked questions during the lecture, including a "bonus" question regarding sending home a patient with a particular

RH status. Assessments were elicited from the students. Students took notes throughout the lecture. The instructor asked questions during this time and called on students for answers. **Examples:** "How would we diagnose this?" "What do you do for a hemorrhage?" The latter led to a discussion of maintenance of fluid volume to prevent the patient going into shock and dying. Only a few students understood this, and the instructor spent some time clarifying the information. In the middle of the lecture, the students were asked to take a few minutes and write three or four interventions for fetal bleeding, and "put a star next to the priority." The lecture, interspersed with questions and discussion, continued.

Example 3. Infused Occupational

Kappa Community College, rural, northeastern state
Mechanical Technology-Design and Drafting Program (AAS degree)
Course: Technical Drawing II

This course teaches students to study and develop structural steel design and shop drawings and process piping flow diagrams, spool sheets, and topographic construction drawings. Advanced drafting skills are also taught. Although this is an advanced level course, students initially have considerable difficulty reading the textbook, which is large and extremely dense; however, the instructor, who is herself an engineer, likes the text and feels that it has all the information that the students need. She teaches the students strategies for note-taking and reading and rereading several pages at a time. For example, the students read an assigned selection and then present the information orally to the class. In another assignment, they read two pages and express the information in their own words in writing. In order to do this, they must understand the theory, so the writing assignment builds their knowledge. The instructor also asks them to define in writing various technical terms. In addition, the students must "write as an engineer"—they write letters, memos, specs, and minutes based on an actual walk-throughs of construction sites.

The instructor sees academic skills as her responsibility and is not interested in collaborating with academic faculty. She thought that the students had negative reactions to faculty collaboration. "They think we need an English teacher to help us because we can't do it ourselves . . . [I think that] we should all do it ourselves, not collaborate."

The instructor also had a negative view of applied academics courses because she thought that the academic teachers did not have sufficient industry background. For example, she thought that math teachers knew the math but not the technology. "Without the practical experience, it doesn't work—(the instructor) doesn't know the language of the field. The problems and the answers to those problems need to be authentic, characteristic of the workplace." She thought that standard word problems should not just be changed superficially, such as "eggs for culinary arts students" because teachers lose credibility with students who have work experience in the area to which the math is being applied.

Example 4. Infused Occupational

Omega Community College, mid-sized city, northeastern state
Radiologic Technology Program (AAS degree)
Course: Image Production and Evaluation II

This is an advanced course in radiographic imaging for diagnosing disease and injury. Omega Community College has long been committed to a writing-across-the-curriculum model, and each curriculum contained two such courses. While assigning writing projects is critical to these courses, however, discipline instructors are not expected to teach writing skills. In the event of writing difficulties, college guidelines indicated that students should be encouraged to seek help in the college's writing center. Therefore, the radiology instructor graded formal papers for content, not grammar.

The radiologic technology students submitted a variety of written reports, such as two-page lab reports formatted for purpose, introduction, objectives, equipment, procedure, observations, and conclusions. A sample lab report was posted on a bulletin board to aid students in preparation for the assignments. The students also summarized several self-selected articles from professional journals over the semester. The instructor's guidelines specified that the summary should be one typed page and that articles must relate to current technological advancements in radiologic imaging pertinent to course content.

In addition, the course required a ten-page research report. Students supported each other in this endeavor and would meet outside of class to prepare their papers. "Impromptu writing" was also occasionally assigned in class, where students wrote informally "on the spot," and this work was not graded. In the instructor's opinion, infusing the course with writing helped students become more involved with the subject matter.

Example 5. Infused Academic

Chi Community College, rural, mid-Atlantic state
Precision Machining Technology Program (81-credit diploma)
Courses: Basic Technical Math I and II (customized for Precision Machining Technology students)

This diploma program requires more credits than the 66-credit associate's degree. Some have suggested that the program achieve associates status, but the industry advisory board recommended against it because a significant number of technical courses in important skills would have to be dropped (e.g., 18 credits of machining).

The local economy has a great demand for program graduates, who often start at a salary of $28,000, which is considered good in this region. Their earning potential, with overtime, is $59,000. Graduates enter occupations such as tool and die maker and metallurgy, the heat treatment of steel. Few graduates actually enter the latter job now because the work environment is uncomfortably hot.

Two math courses required for the diploma are customized by the math instructor, Mr. Smith (fictitious name), who has been at Chi Community College for over 30 years. Early on, he spoke with the technical teachers and spent time in their labs, including the print shop and machine shop. Other faculty did the same thing; some did their own work in the labs, and others just visited to become familiar with them. Students are blocked into the math course, and precision machining examples are used throughout. In a joint interview with math and precision machining technology faculty, the instructors emphasized that the academic instructor must have detailed understanding of the technical side—it is not enough to change the textbook; the faculty must understand the work.

Mr. Jones (fictitious name), the technical instructor, who had been at Chi Community College for eight years, was emphatic that the students had the most difficulty when the math teacher did not understand the applications. This created serious problems even when the textbook was good. "The instructor is more important than the textbook . . . It helps the students if they know the teacher has the experience and interest."

If the teacher cannot apply the math, the students cannot either. In this case, the math has to be taught by the machine instructors. There are eight to twelve math adjuncts who work with the program. Some have industry background and know the applications. On the other hand, some of the full-time math faculty lack this knowledge. The problem of understanding the applications is not related to full- or part-time status.

Mr. Jones referred to the "type of students" in the machining program: "Some teachers can't deal with them . . . They are not motivated for academic work. They prefer applied, hands-on work. They need to see the real reason."

Smith thought that "the individual instructor makes the difference. They may have to spend time talking about subject matter that is not math." The students were able to determine quickly whether the math instructor understood the technical content. Jones stated, "You can't fool 20 guys. After two classes, they can see if a teacher can't teach. It's a catastrophe if the teacher can't understand (the applications)."

For example, if a math teacher tries to teach right angles without the appropriate applications, the students become very confused, and the technical teachers have to teach it all over again. Smith asks the students to tell him about the applications and starts from there. He teaches all math concepts in relation to applications.

To customize instruction required instructors who were interested and dedicated. Jones stated, "The interest and need can't be dictated. Administrators and politicians don't realize you don't make a good teacher."

He thought that it was important that the college support the collaborating instructors "from the top," for example, clerical help if faculty were writing a math textbook for a technical course or producing class notes. Professional development on or off campus was also important. For example, both Jones and Smith thought that math teachers should "go to industry." Most new instructors do not have industrial background and don't know important applications such as reading micrometers. According to Jones, "(they need to see) what is required on a daily basis. It's worth its weight in gold to set time for that."

Since few instructors will do this on personal time, he thought the college should allocate time for it. It would be best for academic instructors to start in a lab on campus and then make visits to industry on occasional days over the year. The students make six to eight visitations per year. One of the deans may go with them, and Jones also invites other faculty. He recommends support by college administration for such trips.

The two instructors did not collaborate formally but frequently met informally. Smith stated, "harmony between the divisions is key to collaboration." When asked how the college could maintain the collaborations across disciplines, Smith said what happened at "preemployment" was important. When evaluating applicants, the college should look into their background (he realized this might not be feasible or acceptable) to see if personal history lent itself to technical instruction. He noted, for example, that several faculty had grown up on farms as children and had mechanical background which made them more aware of instructional issues in technical programs.

Example 6. Infused Academic

Beta Community College, located in the urban fringe of a midsized mid-Atlantic city
Dental Assisting Program (46-credit diploma)
Course: English – Applied Communications II (customized for dental assisting students)

This is an infused academic course that contextualizes English instruction in dental assisting content. Only dental students attended this section. (An issue that arises in infused academic classes is the need for block scheduling.) The English department took the initiative to integrate instruction after Norena Badway (Badway & Grubb, 1997) led two professional development workshops at the college. Faculty volunteered to be involved in the project and received stipends for workshop attendance and curriculum modification. The dental instructor was enlisted by the English instructor because she knew and liked her. (A theme that we have encountered in integrated instruction across the various case study sites is its basis in personal relationships.) They worked together to plan the English instruction so it would meet the needs of the dental assisting courses. Only the English, not the dental curriculum, was modified—as with the example of math and precision machining technology, the academic course was geared to support occupational instruction.

In a joint interview with the English instructor and the Chair of Humanities, the Chair indicated that the college had a negative reputation with business—they think what is taught is irrelevant, traditional. "All they know about school is what they experienced. They don't realize what we do." She thought it might be a good idea for business representatives to come and sit in on classes to realize how focused on workplace skills they are.

In the state where Beta Community College is situated, there are three levels of community college education: (1) a certificate, consisting of only occupational classes; (2) a diploma, made up of occupational classes and a few general education classes; and (3) the associate's degree, which has additional general education requirements. The English class for dental assisting students was applicable only to the diploma, not transferable to the associate's degree.

At the time of the case study, the students were three weeks away from graduating. They were interviewing for jobs, and some were already working. The English course covered job application skills such as writing a cover letter and résumé and interview skills, all geared specifically to dental offices. The instructor had the students "write many short things rather than one long thing." She taught the same English skills to students in other programs, such as carpentry.

During a classroom observation, the instructor made many references to the dental class and seemed to be very familiar with the syllabus and the other instructor's specific assignments. Twelve students attended, all women. Two were African American and the rest Caucasian. Age range appeared to be from midtwenties through early forties. One student had a teenaged daughter; others had young children. The classroom was arranged in traditional rows of desk chairs. Part of the session was conducted in a semicircle, although arrangement was a bit haphazard and disorganized, with one student sitting with her back to the others because she had not rearranged her chair. The ambiance was extremely friendly. Students were attentive and seemed very mature. Verbal responses from many of the students, however, were in a monotone voice and somewhat unclear—the teacher encouraged them to answer in full sentences. A few were articulate, but the others needed help projecting their voices and expressing enthusiasm in more formal utterances using speech contours. Their language in spontaneous conversation with each other that I overheard was markedly different from their formal answers in class.

The instructor began by asking the students about their workplace rotations and conveyed feedback she had received from the dental instructor on their interviewing skills. She then returned written assignments and discussed them. She commented that the content was good and any marks taken off were related to grammar. Then, the students were asked to read questions they had made up to prepare for interview practice in the dental class. **Examples of questions:** "If there was anything you could change about your life, what would it be?"; "What are you good at?"; "What are your 1- and 5-year goals?" The instructor commented on how each question could be answered in an interview. For example, regarding 5-year goals, it is better to answer that you'd like to be working for a dentist rather than to say you'd like to be married with children.

The instructor then gave feedback on another assignment, in which the students had had to send her e-mail and voicemail about a canceled appointment. She discussed the voicemail, in particular the need to speak at an appropriate speed when leaving a phone number; she commented that the students had done well on this.

The instructor then asked students to work on an assignment in a group for 15 minutes. She asked students to select their own groups or she would assign them. She announced that "the person whose hair is the shortest is the facilitator" and reviewed this person's responsibility to keep the group on track and be a timekeeper. Later, the teacher told me that she and others at the college had received training in collaborative learning from Johnson and Johnson (1986), which she found useful.

The assignment for the next day was to write a patient profile. This was linked to an assignment in the other class in which the teacher wanted them to analyze a single patient. She discussed the profile assignment and provided examples of patient needs and behaviors (e.g., willingness to take anesthesia and selecting the shade of a crown). She stated that students should research a patient and should ask at their work rotations to use a patient file.

The instructor then moved back to the interview questions. She asked students to read the questions they had written and then called on other students to answer them. She commented on the various answers. For example, the question "If you could change anything about your job what would it be?" should be answered in terms of job responsibilities not personal relationships. She then asked one of the students to go to the front of the room, sit at the teacher's desk, and call on other students to answer questions she had written. This went smoothly, with commentary from the instructor all along.

During this segment of the class, the issue of joining a professional organization arose. They discussed annual dues and the benefits of joining. Students suggested that it was useful to join to know who is practicing, but they seemed to need to be reminded of the professional aspect—one said that it was good to be able to find a dentist for a family member.

Example 7. Infused Academic

Eta Community College, large city in a western state
Art Program (AA, transfer-level degree)
Course: History of Ancient Art

At Eta Community College, the average student age is 27, and there is high representation from recent immigrants who speak a primary language other than English. The art history class is at the other end of the academic spectrum from the English class presented in the previous example. The History of Ancient Art class was an advanced-level course in which all students were preparing for transfer to a four-year institution. The course content was strictly academic, but the instructor had become involved in a project to infuse SCANS competencies in both academic and occupational curricula. While the art history infusion did not teach specific job skills, the employability skills as described in the SCANS (1991) document seemed applicable to an academic context.

In a year-long faculty development seminar, 30 faculty from both academic and career-related programs at Eta Community College modify curriculum to include one or more self-selected SCANS competencies. Participation is supported by a modest stipend, and no release time is provided. Most participants are full-time, but over time, adjunct instructors have become involved, which is probably attributable to their own motivation but also the enthusiasm and energy of the dean who directs the project. There are 15 instructors, who are new to the initiative, and 15 "veterans," who serve as mentors. Faculty are paired by the dean on the basis of personality characteristics and cross-disciplinary involvement although there is no effort to match occupational and academic instructors per se. For example, the art instructor worked with an English teacher (i.e., they were both in general education). The mentors work closely with their mentees and observe their classrooms twice during the year. At monthly professional development meetings, participants hear guest speakers and discuss their curricular modifications. Occasionally, participants collaborate on panel presentations on their SCANS infusion at state conferences. According to the dean, SCANS infusion is particularly useful because, beyond immediate impact on students, it helps faculty think carefully about learning outcomes.

In the year-long professional development, faculty plan the SCANS infusion in the Fall semester and implement it in a Spring course. At the end of the course, focus groups are conducted by the dean, in which students are asked the following questions:

- What did you like about the class?
- What did you dislike about the class?
- How did the class differ from other classes you have taken?
- Did the SCANS skills interfere with the subject matter?
- Would you recommend the class to others?

In addition, there is a pre/post student questionnaire containing a list of SCANS-related behaviors. The students are asked to check the ones that "help you become competent at work." Usually, the students only check a few at the beginning of the semester and all of them at the end.

The art history instructor, Ms. Martin (fictitious name) stated that initially she had been skeptical about teaching "vocational skills in a vocational setting." She saw her role as "not preparing people for jobs but for four-year college, Master's degrees, and a PhD. SCANS seemed less obvious." However, she realized that she "had been doing SCANS all along—it was just that we hadn't given it a name."

When she started the professional development, she looked through the list of SCANS skills and decided to focus on interpreting information, gathering information, getting to work on time, and evaluation and critical analysis of information. Martin stated that it was important to teach in a "context of applicable skills" and to teach students about "the power of communication." It became simple to organize instruction around the competencies.

She tells students about SCANS competencies on the first day of class. She discusses the diversity of cultures, different levels of educational background, and different levels of English language skills they will encounter in people they will work with in job settings. Students responded well to SCANS when the skills are taught "in the context of the power of communication."

Martin said that when deciding which SCANS skills to include, faculty have to ask themselves whether they should choose what they're already doing or do something new. She thought it was best to select what they are already doing, being new to SCANS, and then add others later. She selected critical analysis and evaluation of information and planned to add technology, which was new for her course, the following year. She planned to ask students to use the Internet to find a source for a paper, or walk through a virtual museum. She had spent time looking at websites and learned where on campus to send students for help with technology. She started using the SCANS competencies with one section of her course and now planned to use them in all sections she teaches. In her opinion, the competencies were valuable because they helped increase the comprehension of the subject matter by ESL students because they have to write about the material, and it gave Martin a way to provide feedback to them. She was able to see from what they wrote whether they had understood and where they needed clarification.

The specific way that SCANS competencies are infused in Martin's art history curriculum is as follows. Students are given the chance to work on a SCANS project for extra credit, which is the only way to earn extra credit in the course. Students are given a handout asking three general questions requiring synopses of art history lectures given in class. They must submit six of these assignments and meet with a teaching assistant in a study group six times over the semester to earn the extra credit. Students select six works of art on which to focus. They must pace themselves in doing the extra work over the semester. The way the extra credit is awarded is to take the lowest grade earned in the course and add 15% to it. Actually, Martin indicated that the extra credit turned out not to be very important because the better students are the ones who tend to opt to do the extra work.

In addition to the SCANS project, Martin tells students that punctuality for class is important because students will have to be on time at work. She felt that using SCANS made education more relevant, valuable, and meaningful to the real world and work.

APPENDIX B

GCC

EMPLOYABILITY SKILLS

UILFORD TECHNICAL COMMUNITY COLLEGE
PO Box 309
Jamestown, NC 27282

The basic core competencies essential for successfully preparing new employees for the workplace

GUILFORD COUNTY SCHOOL
P.O. Box 880
Greensboro, NC 27402

A **Teamwork** (Working with others to analyze a situation, establish priorities, and apply resources for solving a problem or accomplishing a task)	**A-1** Participate in defining team expectations	**A-2** Proactively identify opportunities to support team members	**A-3** Be proactive in carrying out team assignments	**A-4** Support other team members' ideas	**A-5** Respect ideas and opinions of internal and external customers	**A-6** Implement team decisions	**A-7** Process information to determine the best possible solution	**A-8** Participate in cross-training and continuing education activities	**A-9** Assume leadership for mediating differences between team members	**A-10** Think outside the guidelines, incorporate creativity	**A-11** Value individual differences (get along with others)
	A-12 Maintain team records										
B **Responsibility** (Exhibiting individual behaviors that support the official goals and objectives of the organization and its members)	**B-1** Support the organization's mission, goals and objectives	**B-2** Demonstrate personal and business integrity and ethics	**B-3** Think cost effectively	**B-4** Ensure that team goals are met, even with absence of a team member	**B-5** Come to work on time/regular attendance	**B-6** Follow assigned schedules	**B-7** Perform job to best of your abilities	**B-8** Maintain a safe and clean work environment	**B-9** Meet deadlines	**B-10** Keep accurate records	**B-11** Make decisions in best interest of the company and team
	B-12 Admit mistakes	**B-13** Maintain professional appearance	**B-14** Follow procedures	**B-15** Accept authority	**B-16** Inform others of developments affecting their work functions	**B-17** Understand and utilize chain of command					

continued on back...

PANELISTS:

John Dudley, *Customer Service, Classic Gallery Group, Inc., High Point, NC*
Eddie Hayes, *Team Leader, American Express, Greensboro, NC*
Brent Jones, *Team Leader, Guilford Mills, Greensboro, NC*
Ken Kemp, *Credit Services Supervisor/Collections, NationsBank/TriadCenter, Greensboro, NC*
Greg Klvett, *Operations Leader, Dow Corning, Greensboro, NC*
Donna McDaniel, *Purchasing Assistant, CIBA, Greensboro, NC*
Janet Varner, *Customer Service Representative, Guilford Mills, Greensboro, NC*

PROJECT DATE: July 15, 199

Charlotte Morris, *Facilitator*
Dr. Diane Gibson, *Recorder/Facl*

Sponsored Through A Grant From The CIBA EDUCATIONAL FOUNDATION

* Courtesy of Guilford Technical Community College, Jamestown, NC.

BEST COPY AVAILABLE

APPENDIX B (Continued)

C **Communication** (Exchanging ideas and information in oral, written, or visual form with peers, supervisors, and internal and external customers)	ORAL	**C.1.A** Practice good telephone etiquette	**C.1.B** Ask open ended questions	**C.1.C** Use correct grammar and appropriate vocabulary	**C.1.D** Maintain two-way communication	**C.1.E** Give and receive constructive feedback	**C.1.F** Negotiate win-win resolutions	**C.1.G** Practice active listening	**C.1.H** Demonstrate understanding through paraphrasing	**C.1.I** Use effective tone, pace, and inflection in verbal exchanges	**C.1.J** Interact with difficult people rationally	**C.1.K** Deliver effective oral presentation
		C.1.L Participate in interviews										
	WRITTEN	**C.2.A** Apply basic mechanics to written documents (spelling, punctuation, etc.)	**C.2.B** Summarize and write in a brief and concise manner	**C.2.C** Select appropriate format and style for written communications	**C.2.D** Select relevant and pertinent information	**C.2.E** Complete and/or interpret reports	**C.2.F** Read and follow standard operating and safety procedures	**C.2.G** Organize and present facts	**C.2.H** Operate basic communication equipment	**C.2.I** Write legibly	**C.2.J** Write orders, letters notes, minutes, memos and/or newsletters	
	VISUAL	**C.3.A** Read and interpret graphs	**C.3.B** Identify and interpret body language	**C.3.C** Construct job aids	**C.3.D** Construct procedures chart	**C.3.E** Read manuals	**C.3.F** Plot chart information	**C.3.G** Interpret visual representations (posters, diagrams, etc.)	**C.3.H** Read spreadsheets	**C.3.I** Recognize standard symbols		
D **Problem-solving** (Identifying problems and potential causes while developing and implementing action plans for solutions)		**D-1** Approach problem as a learning opportunity	**D-2** Recognize and overcome organizational and personal barriers	**D-3** Be proactive in preventing problem occurrences	**D-4** Define characteristics of situation or problem	**D-5** Keep appropriate personnel informed	**D-6** Determine root cause	**D-7** Construct and utilize Pareto chart for decision-making	**D-8** Gather new and review prior essential information	**D-9** Brainstorm possible solutions	**D-10** Review or establish decision criteria	**D-11** Weigh alternative solutions
		D-12 Test and evaluate the outcomes of possible solutions	**D-13** Select and prioritize best solutions	**D-14** Implement best solution	**D-15** Monitor results	**D-16** Share results with appropriate individuals	**D-17** Ensure proper follow-up with internal and external customers					
E **Information Processing** Finding and using information (Acquiring, evaluating, organizing, managing, interpreting and communicating information)		**E-1** Identify information required	**E-2** Determine information sources (people, print, electronic)	**E-3** Gather required information	**E-4** Modify search as required	**E-5** Select, synthesize and organize information	**E-6** Get appropriate authorization for action taken	**E-7** Evaluate and document sources	**E-8** Communicate with appropriate people	**E-9** Document and file action taken	**E-10** Analyze and follow flow chart	**E-11** Demonstrate basic keyboard and mouse skills
		E-12 Demonstrate basic word processing skills	**E-13** Locate and navigate on-line help systems	**E-14** Demonstrate basic data base skills by accessing, searching and retrieving information	**E-15** Demonstrate basic spread sheet skills							
F **Adaptability** (Exhibiting flexibility and receptivity to changing technologies, methods, processes, work environments, and organizational structures and practices)		**F-1** Identify and embrace opportunities brought on by change	**F-2** Learn new knowledge, skills and jargon	**F-3** Actively understand and seek career pathing opportunities	**F-4** Market and integrate skills across the organization	**F-5** Accept changes in schedules, deadlines and procedures	**F-6** Willingly accept and prioritize multiple assignments	**F-7** Pilot new processes	**F-8** Openly support new team members	**F-9** Know own strengths and weaknesses	**F-10** Adjust to changes in work flow	**F-11** Adjust to physical changes in workplace

* Courtesy of Guilford Technical Community College, Jamestown, NC.

BEST COPY AVAILABLE